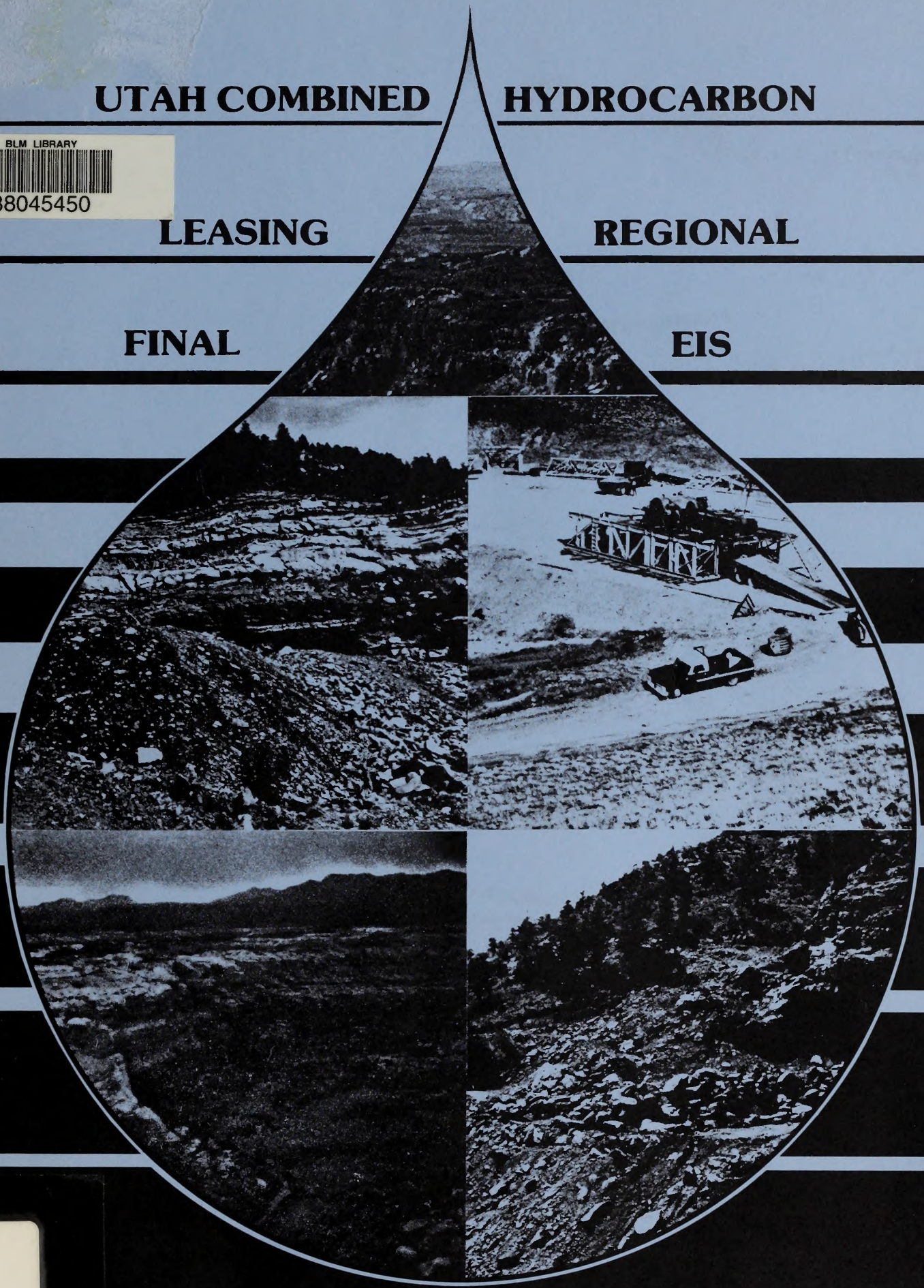
UTAH COMBINED HYDROCARBON LEASING REGIONAL FINAL EIS



RECORD OF DECISION

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UTAH COMBINED HYDROCARBON LEASING

LAND USE PLAN AMENDMENTS

AND

NEW LEASE TRACTS

RECORD OF DECISION

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RECORD OF DECISION

Background and Current Status of Program

The Combined Hydrocarbon Leasing Act of 1981 created a new Federal tar sand leasing program within Special Tar Sand Areas (STSAs) (refer to Figure 1). This program consists of two parts:

1. The conversion of existing oil and gas leases and valid mining claims to new combined hydrocarbon leases (CHLs); and
2. Competitive leasing of combined hydrocarbons.

Regulations governing the conversion portion of this program were issued in May 1982. These regulations, reflecting the mandates of the law, provided that all applications for conversions be submitted by November 16, 1983, and that the Bureau of Land Management (BLM) take action on the applications within 15 months of receipt of complete plans of operations. Each conversion must be based on a plan of operations that demonstrates reasonable protection of the environment and diligent development of the tar sand.

Forty-two applications were received for CHL conversions, involving nearly 220,000 acres and over 200 leases. The potential environmental impacts of these applications are being reviewed in several documents. These include ongoing separate environmental impact statements (EISs) for conversions in the Sunnyside, Circle Cliffs, PR Spring, Hill Creek, and Tar Sand Triangle STSAs. Two separate EISs for the Santa Fe et al., and the Kirkwood applications in the Tar Sand Triangle STSA are proposed. In addition, six environmental assessments (EAs) covering smaller applications in the Raven Ridge/Rim Rock, Asphalt Ridge/White Rocks, Pariette, Sunnyside, and San Rafael Swell STSAs are being prepared by the BLM. A seventh EA for an application in the White Rocks area is being prepared by the Forest Service (FS). The cumulative analysis for all of these applications is contained in the *Utah Combined Hydrocarbon Leasing Regional Final EIS* (hereafter referred to as the *Regional Final EIS).* All subsequent NEPA (National Environmental Policy Act) analyses are being "tiered" to the *Regional Final EIS.*

A significant amount of tar sand on Federal lands is being considered for conversion under the Combined Hydrocarbon Leasing Act. There may be, however, a need for additional tracts through the competitive leasing program in the near future. There are two reasons which may justify competitive leasing: This would provide for the blocking up of lease areas which would "round out" CHL units created as a result of the conversion process. This leasing would avoid bypass situations and could result in a more efficient development pattern. Logical mining units could more easily be established, which would allow for improved resource recovery, better access between isolated tracts, and more unitized types of development. Entities who were not able to obtain leases through the conversion process would have an opportunity to secure leases, potentially increasing economic viability and technological advancement of the industry.

Final regulations governing the new competitive leasing program were issued in February 1983. A call for expressions of interest for new leasing covering all of the STSAs, with the exception of PR Spring, Hill Creek and Raven Ridge/Rim Rock, was issued in August 1982. Twenty-six nominations were received at that time, resulting in the delineation of eighteen tracts. Volume III of the *Regional Final EIS* analyzed the environmental impacts of leasing these tracts. Originally scheduled for May 30, 1984, the date of this first round of lease sale has been postponed and has not yet been rescheduled.

A proposal to amend the combined hydrocarbon leasing regulations for both the conversion and the competitive leasing portions of the program was presented at a public meeting held in Salt Lake City during February 1984. This proposal is still under consideration and may result in new regulations affecting the diligent requirements of all CHLs by adding an annual minimum production requirement.

Tar Sand Economics

The economics of tar sand development are primarily determined by two factors: the growth of new technology and the price projections for crude oil. At this time, the future of these factors cannot be predicted with any certainty. Current economics for the industry are marginal at best. However, economic improvements in individual projects can be expected as the resource becomes available to industry and knowledge about the deposits increases. Current projections by the Department of Energy indicate a steep upturn in crude oil prices in the middle to late 1980s, continuing on a less, but still significant, growth rate through the turn of the century. If this forecast materializes and current estimates of project costs are accurate, tar sand production could become

economically viable towards the late 1990s. Technology improvements could decrease that time frame by several years.

Among the advantages of using tar sand for an alternative source of petroleum products is the comparatively low "up-front" cost of a production facility. Although investment cost estimates for a commercial facility range from a low of $300 million to over $1 billion, these estimates are less than half of that required for a similar oil shale project. Other advantages include (1) the potential for the implementation, with some modifications, of technologies currently in use for enhanced oil recovery; (2) the fact that many U.S. refineries are being retrofitted to handle heavier crude oil inputs; and (3) a current strong market for road mix. Due to these advantages, most synfuel analysts consider tar sand the most promising synthetic crude for crude production within the next several years.

The Need For a Combined Hydrocarbon Leasing Decision

Environmental evaluations required to implement the Combined Hydrocarbon Leasing Act are contained in the *Regional Final EIS*. This EIS was divided into four volumes to separate the different facets of the Act and allow individual treatment of the various parts of the Federal tar sand leasing program.

Volume I of this EIS contains a regional overview and cumulative analysis of impacts which could be expected from two production levels and no action for each of the 11 STSAs in Utah. No decision regarding implementation of specific portions of the tar sand program will be made based on Volume I analysis. Conversion decisions will be made following preparation of the subsequent site-specific analysis (EISs and EAs) prepared for individual projects.

Because tar sand development could be more disruptive to environmental resources (e.g., soils, water, visual resources) than oil and gas development, reconsideration of the oil and gas leasing categories in STSAs and subsequent amending of land use plans (Management Framework Plans [MFPs] and Resource Management Plans [RMPs]) are required. The environmental evaluation required to amend land use plans is contained in Volume II of the *Regional Final EIS*. Once decisions on amendments to land use plans are made, all CHLs issued in STSAs would be regulated by the amended leasing category system and would contain stipulations required for development of each lease. The leasing categories considered are: (1) category 1, open to leasing with standard stipulations (Appendix 1 lists these stipulations); (2) category 2, open to leasing with standard and special stipulations (Appendix 2 lists special stipulations); (3) category 3, open to leasing with no right of surface occupancy (in all category 3 areas, a no surface occupancy stipulation would be inferred or attached to the affected lease); and (4) category 4, closed to leasing. Decisions on land use plan amendments are needed for seven STSAs in three BLM districts.

Decisions are also required regarding the proposals to offer new lease tracts. The environmental evaluation of the impacts of leasing these potential CHLs is contained in Volume III of the *Regional Final EIS*. Eighteen tracts were evaluated. A notice in the July 18, 1984, *Federal Register* postponed indefinitely the lease sale.

Volume IV of the *Regional Final EIS* contains the public comments and responses made on the *Regional Draft EIS*.

Decision Process

Decisions are to be selected from the alternatives addressed in Volumes II and III of the *Regional Final EIS*. Recommendations for the land use plan amendments and proposed new lease tracts discussed in Volumes II and III were prepared by the Area and District Managers and approved by the Utah State Director. For competitive leasing (discussed in Volume III), the Utah State Director will make the final decisions on which alternative to implement. In the case of the two potential lease tracts located on lands managed by the National Park Service (NPS), consent from the NPS is required prior to a decision by the State Director. (Refer to Appendix 3 for stipulations which would apply to leasing on NPS tracts.) Decision criteria used in both Volumes II and III are based on the need to make tar sand development available in an environmentally reasonable manner.

As a part of the EIS and decision-making process, coordination and consultation were initiated with the appropriate Federal, State, and local governments and Indian tribes. Consistency requirements prescribed in 43 CFR 1610.3-2 were applied for land use plan amendment considerations.

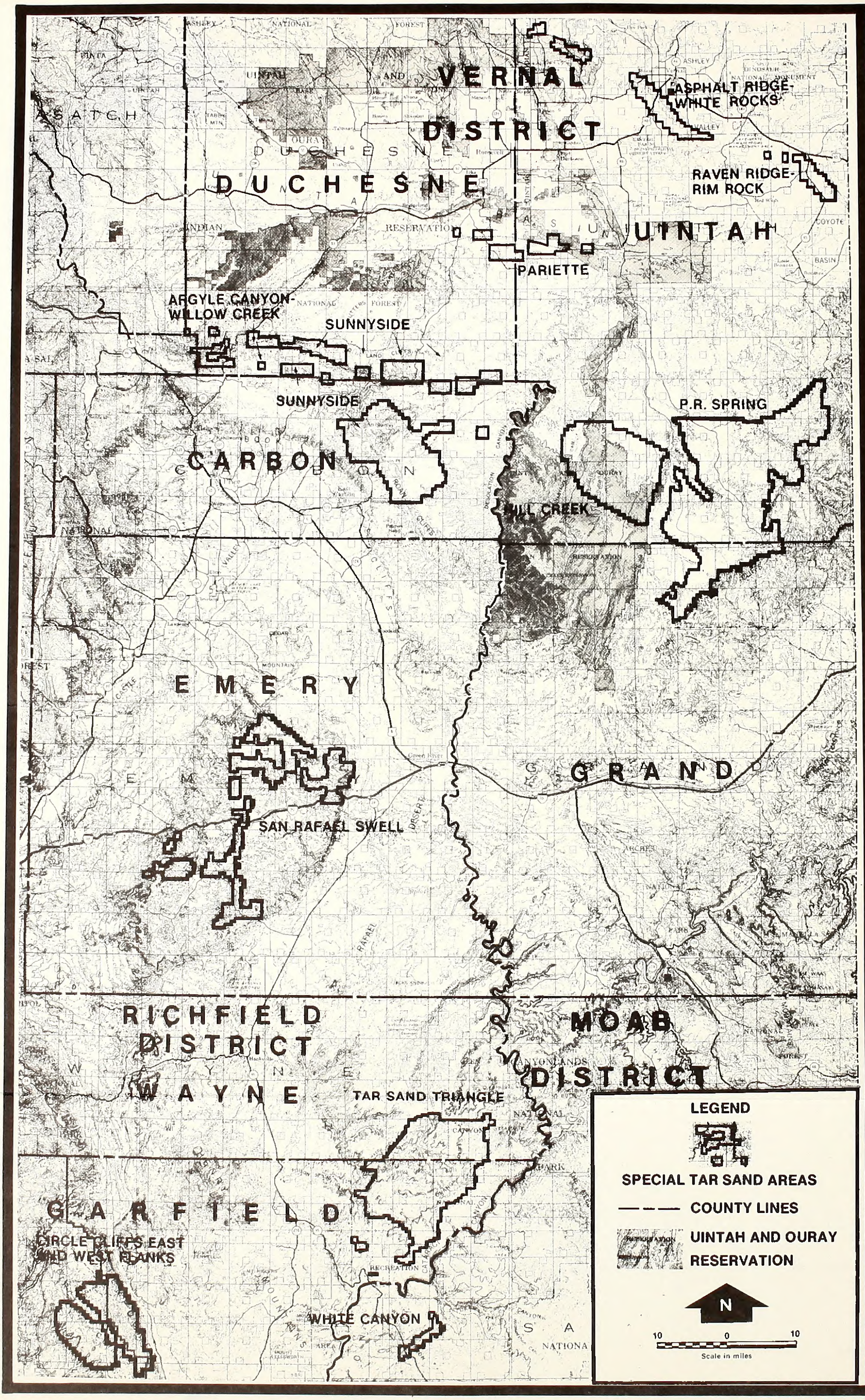
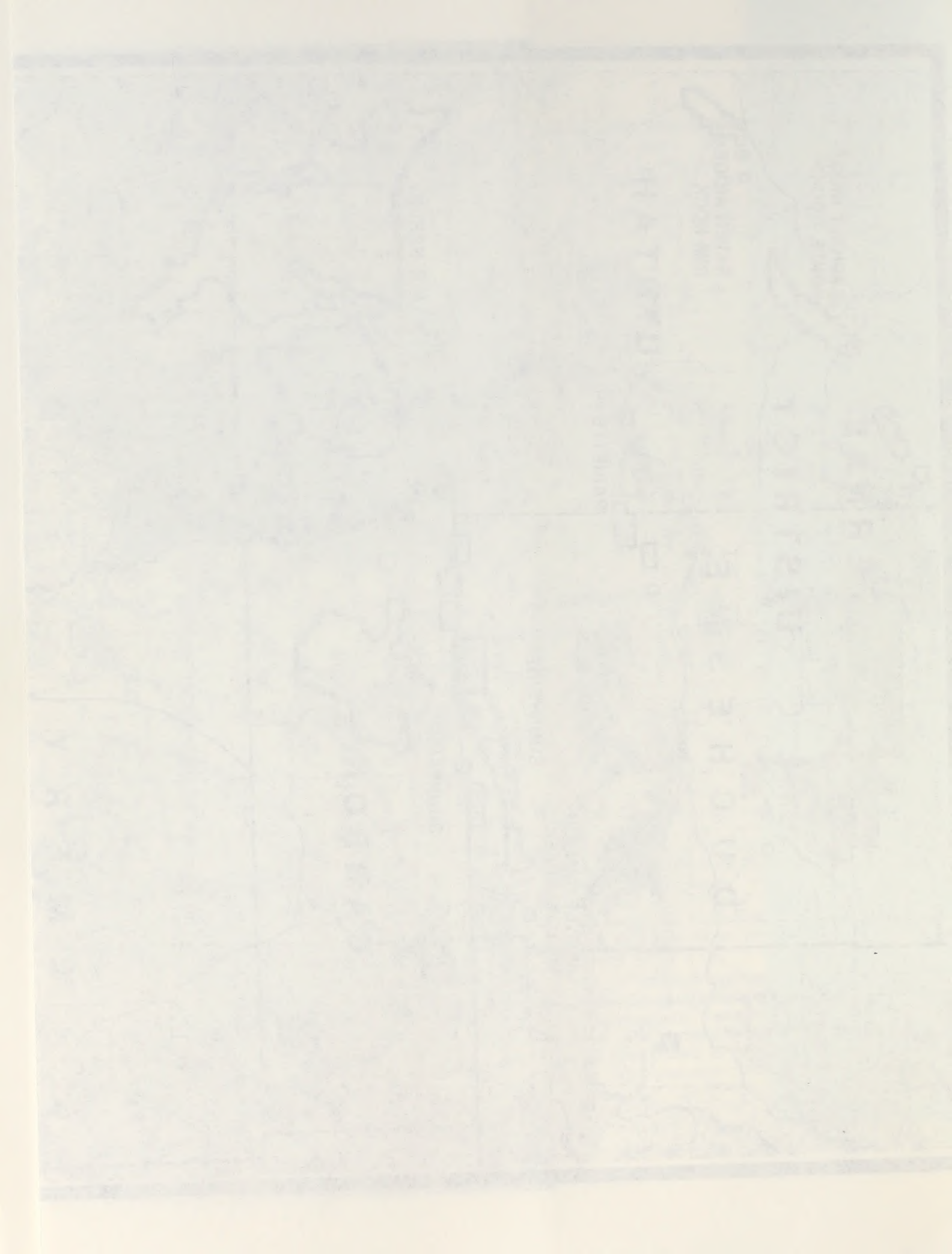


FIGURE 1

SPECIAL TAR SAND AREAS IN UTAH



EIS Issue Identification

Public scoping sessions were held prior to writing the *Regional Draft EIS*. Following those sessions, interdisciplinary teams from each BLM district and the NPS listed the major issues for each STSA. Following publication of the *Regional Draft EIS*, all agencies and the public were provided a 90-day comment period. Table 1 lists the major issues identified during scoping and major concerns received from comments during the comment period for the *Regional Draft EIS*.

Issues identified for the new lease tracts are air quality, water quality and use, wildlife, visual resources, land use, socioeconomics, and transportation development, as well as those identified for the STSAs. However, for Flint Flat and Gordon Corral tracts, located in the Glen Canyon National Recreation Area (NRA) portion of the Tar Sand Triangle STSA, additional issues were considered in the EIS analysis. Desert bighorn sheep, Cryptogamic soil, wildlife, vegetation, cultural resources, air and water quality, visual, and recreational resources are critical issues for those tracts.

Comment letters received on the *Regional Final EIS* are printed in Appendix 4.

Summary of Environmental Impacts

Appendix 5 summarizes the environmental effects of implementing the alternatives for amendments to land use plans (Volume II) and competitive lease sales (Volume III).

Decisions to be Made

Decisions for each land use plan amendment and proposed new lease tract appear on separate "decision record sheets." These sheets contain a description of alternatives followed by the decision recommendation, rationale and comments written by the Area or District Managers involved and approved or rewritten by the BLM's Utah State Director.

Standard stipulations for all BLM lands, as described in Appendix 1, would apply to all CHLs in Utah.

The first set of decisions is for the land use plan amendments to be made for seven STSAs. The alternatives listed in the decision record sheets for these amendments are the same alternatives listed in Volume II of the *Regional Final EIS* and are numbered the same.

The second set of decisions is for the proposed new lease tracts. Table 2 lists the tracts and contains baseline information about each tract. A decision record sheet is prepared for the five alternatives discussed in Volume III of the *Regional Final EIS* plus an alternative to defer a decision. In addition, decision record sheets are prepared for each tract. Any tract offered would be leased subject to the categories approved in the land use plan amendment decisions (Volume II) or with additional stipulations for NPS tracts, as listed in Appendix 3. As stated previously, a time frame for offering these leases has not been established.

The environmentally preferable alternative is shown on all decision record sheets. That alternative is based only on the effects that leasing would have on biological and physical factors, whereas the selected alternative also considers the total human environment, including social and economic factors. The rationale for each decision is included on the decision record sheets.

Diligent Development and Reasonable Environmental Protection

The Combined Hydrocarbon Leasing Act requires consideration of two specific criteria in determining whether or not a lease should be converted: (1) diligent development; and (2) reasonable environmental protection. These criteria are not specifically mandated by law for competitive leasing; however, by implication it appears that these are important considerations for the entire program.

Both criteria are somewhat difficult to apply in a finite manner because neither are precisely defined for individual STSAs and potential development conditions. Additionally, the terms are subjective and must be reconciled or balanced with the stated Combined Hydrocarbon Leasing Act objectives to promote tar sand development.

In the context of this decision document, the concept of diligent development is represented by a BLM judgment that a particular CHL competitive lease tract has a reasonable expectation of being utilized (by itself or as a part of a larger adjacent project) within a foreseeable length of time. This is a somewhat broader interpretation than that used for lease conversions because potential lessees and plans of operations are not well defined for tracts at the competitive leasing sale.

TABLE 1

MAJOR ISSUES AND CONCERNS

STSA	Major Issues	Major Concerns
San Rafael Swell	Recreation use Scenic opportunities Sensitive watershed Erosion control Wilderness Uranium and vanadium Wildlife habitat Grazing use Vegetation	Visual resources I-70 corridor Ground water Erosion Threatened and Endangered (T&E) plant habitat San Rafael River Desert bighorn sheep
Sunnyside (Southern Portion)	Watershed Underground aquifers Wildlife habitat and wildlife Cultural resources Recreation and visual resources Public access Rights-of-way Livestock grazing Vegetation Wild horses Wilderness Split estates	Water supply Ground water Desert bighorn sheep Deer Elk Fisheries Cultural resources Riparian areas Land use[1]
White Canyon	Visual resources Desert bighorn sheep and habitat	Visual resources Erosion
Circle Cliffs	Location near Capitol Reef National Park (NP) Capitol Reef NP watershed Capitol Reef NP air quality Off-road vehicle (ORV) use, hunting, and trespass within Capitol Reef NP Disturbance of archaeological values in Capitol Reef NP Wolverine Petrified Wood Area Escalante Canyon Outstanding Natural Area Recreation Visual Resources	Capitol Reef NP Backcountry Erosion Cultural resources
Asphalt Ridge/ White Rocks	Sage grouse strutting ground Cultural resources	Ground water Air quality Cultural resources Land use[1]

TABLE 1 (concluded)

STSA	Major Issues	Major Concerns
Pariette	Watershed	Waterfowl
	Waterfowl habitat	Ground water
	T&E wildlife species	
	Golden eagle nesting habitat	Erosion
	T&E plant species	Land use[1]
Argyle Canyon/ Willow Creek	Erosion	Cultural resources
	Water resources	Springs
	Elk habitat	Ground water
	Mule deer fawning areas	Erosion
		Recreation
		Land use[1]
Sunnyside (Northern Portion)	Erosion	Cultural resources
	Wetlands and springs	Water resources
	Cultural resources	Land use[1]
	T&E plant species	
	Recreation	
	Visual resources	

[1]Concerns potential impacts to the Uintah and Ouray Reservation.

TABLE 2

Data on Potential Lease Tracts

Potential Lease Tract	Designated Special Tar Sand Area	Acreage[a]	Entity Submitting Expression of Interest	Federal Ownership (CHL Minerals)	In-Place Bitumen Resource Estimate From Tar Sand: Best Estimate (bbls X 10^6)[b]	Range of Estimate (bbls X 10^6)[b]	Avg. Bitumen Content bbl/acre	Development Method/Current Potential[c]
Sunnyside No. 1	Sunnyside	3,202.38	Phillips, Sabine	Tar Sand, Oil and Gas	477.0	47.7 to 4770	181,000 (2,635 acres)	Surface
Sunnyside No. 2	Sunnyside	2,715.74	Sabine	Tar Sand, Oil and Gas	116.0	11.6 to 1160	42,700	In-situ or Surface
Sunnyside No. 3	Sunnyside	120.00	Cities Service	Tar Sand, Oil and Gas	9.5	0.95 to 95	79,200	Surface
Sunnyside No. 4	Sunnyside	40.00	Amoco	Tar Sand, Oil and Gas	11.6	1.16 to 116	290,000	Surface
Sunnyside No. 5	Sunnyside	640.00	Sabine	Tar Sand, Oil and Gas	21.8	2.18 to 218	34,100	In-situ
Sunnyside No. 6	Sunnyside	2,493.86	Cities Service, Sabine	Tar Sand, Oil and Gas	128.0	12.8 to 1280	51,300	In-situ
Sunnyside No. 7	Sunnyside	960.00	Cities Service, Sabine	Tar Sand, Oil and Gas	36.1	3.61 to 361	43,000 (840 acres)	In-situ or Surface
Sunnyside No. 8	Sunnyside	1,764.25	Sabine	Tar Sand, Oil and Gas	108.0	10.8 to 1080	61,200	In-situ or Surface
Sunnyside No. 9	Sunnyside	406.00	BLM Nomination	Tar Sand, Oil and Gas	24.4	2.44 to 244	40,900	In-situ or Surface
Sunnyside No. 10	Sunnyside	(120.00)	Sabine	Oil and Gas	--	--	--	Conventional Oil and Gas
Sunnyside No. 11	Sunnyside	(2,040.00)	Cities Service, Sabine	Oil and Gas	--	--	--	Conventional Oil and Gas
Sunnyside No. 12	Sunnyside	(120.70)	Sabine	Oil and Gas	--	--	--	Conventional Oil and Gas
Black Dragon	San Rafael Swell	880.00	Cities Service, TRW, Inc.	Tar Sand, Oil and Gas	5.1	2 to 5	11,700 (438 acres)	In-situ or Surface
Flint Flat	Tar Sand Triangle	2,684.00	Cities Service	Tar Sand, Oil and Gas	49.0	16 to 150	18,200	In-situ
Gordon Corral	Tar Sand Triangle	485.00	Cities Service	Tar Sand, Oil and Gas	8.8	3 to 27	18,200	In-situ
Pariette No. 1	Pariette	(512.83)	BLM Nomination	Tar Sand, Oil and Gas	Insufficient Data	--	--	Conventional Oil and Gas
Pariette No. 2	Pariette	(3,560.00)	BLM Nomination	Tar Sand, Oil and Gas	Insufficient Data	--	--	Conventional Oil and Gas
Pariette No. 3	Pariette	(277.30)	BLM Nomination	Tar Sand, Oil and Gas	Insufficient Data	--	--	Conventional Oil and Gas
Total Tar Sand, Oil and Gas		23,022.06						
Total Tar Sand		16,391.23			995.3			

Source: U.S. Department of Interior (USDI), Minerals Management Service (MMS), 1982.

[a]Numbers in parentheses will be leased for oil and gas only and are not added in tar sand total.

[b]Estimate in millions of barrels.

[c]As determined by BLM District Mining or Oil and Gas Supervisor.

The concept of reasonable environmental protection is covered in some detail by leasing categories and lease stipulations. For purposes of this decision document, it is anticipated that reasonable environmental protection can be achieved through the application of the selected provisions of BLM land use plan amendments. Such reasonable environmental protection is not defined as complete preservation of the land and water resources, but rather as a balanced process to achieve a compromise level of environmental protection and/or restoration which may be a fair trade for the use of the tar sand resource.

The above concepts of diligent development and reasonable environmental protection are further reflected in decision rationale for individual STSAs and tracts included later in this document.

Decision Record Sheets

The following section contains decision record sheets for all proposed land use plan amendments and proposed new lease tracts.

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

San Rafael Swell STSA
Moab District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 2-5 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1			
All category 1 (115,705 acres)			
2. EIS Alternative 2, Existing Oil and Gas Categories			
Category 1 (76,842 acres) Category 3 (21,047 acres) Category 4 (17,816 acres) Categories 3 and 4 protect outstanding scenery, fragile watershed, bighorn sheep habitat,and scenic corridor.			
3. EIS Alternative 3 (Preferred Alternative)			
Category 1 (81,414 acres) Category 2 (6,663 acres) San Rafael River (3,720 acres) Muddy Creek (2,943 acres) Category 3 (8,861 acres) San Rafael Campground (240 acres) Mexican Mountain (791 acres) Sids Mountain (1,441 acres) Muddy Creek (1,036 acres) I-70 Scenic Corridor (5,273 acres) South Temple Wash Material Site (80 acres) Category 4 (18,767 acres) Mexican Mountain (9,652 acres) Sids Mountain (160 acres) Muddy Creek (474 acres) I-70 Scenic Corridor (8,481 acres)			
4. EIS Alternative 4, Restricted Development Alternative			
Category 1 (67,656 acres) Category 2 (20,420 acres) San Rafael River (3,720 acres) Muddy Creek (2,943 acres) Temple Mountain/Goblin Valley Recreation Management Area (13,757 acres) Category 3 (8,861 acres) (areas listed in Alternative 3, Category 3) Category 4 (18,767 acres) (areas listed in Alternative 3, Category 4)			
5. Other			

Rationale and Comments:

For the San Rafael Swell STSA, I have selected Alternative 3 as the decision alternative. The environmentally preferable alternative is Alternative 4, Restricted Development. Impacts that would result from implementation of Alternative 4 are similar to those that would occur if restricted, and only 58 percent of the STSA would be available for tar sand development. Without incurring significant environmental impacts, 70 percent of the STSA could be made available for tar sand leasing development under Alternative 3.

The recreation and visual resources (identified during scoping as major issues) including WSAs and riparian-floodplain areas along the San Rafael and Muddy rivers, would be best protected by Alternative 3. This is in accordance with Executive Orders 11990 (Wetland Protection) and 11988 (Floodplain Management). This protection would also significantly reduce adverse impacts to wildlife. The San Rafael River area includes historic nesting-hunting areas for the endangered peregrine falcon. The San Rafael River campground area would receive additional protection by the exclusion of an additional 80 acres from any surface occupancy.

Alternative 3 is the preferred alternative because it provides for multiple use management while protecting the significant environmental values identified in land use planning and through public scoping.

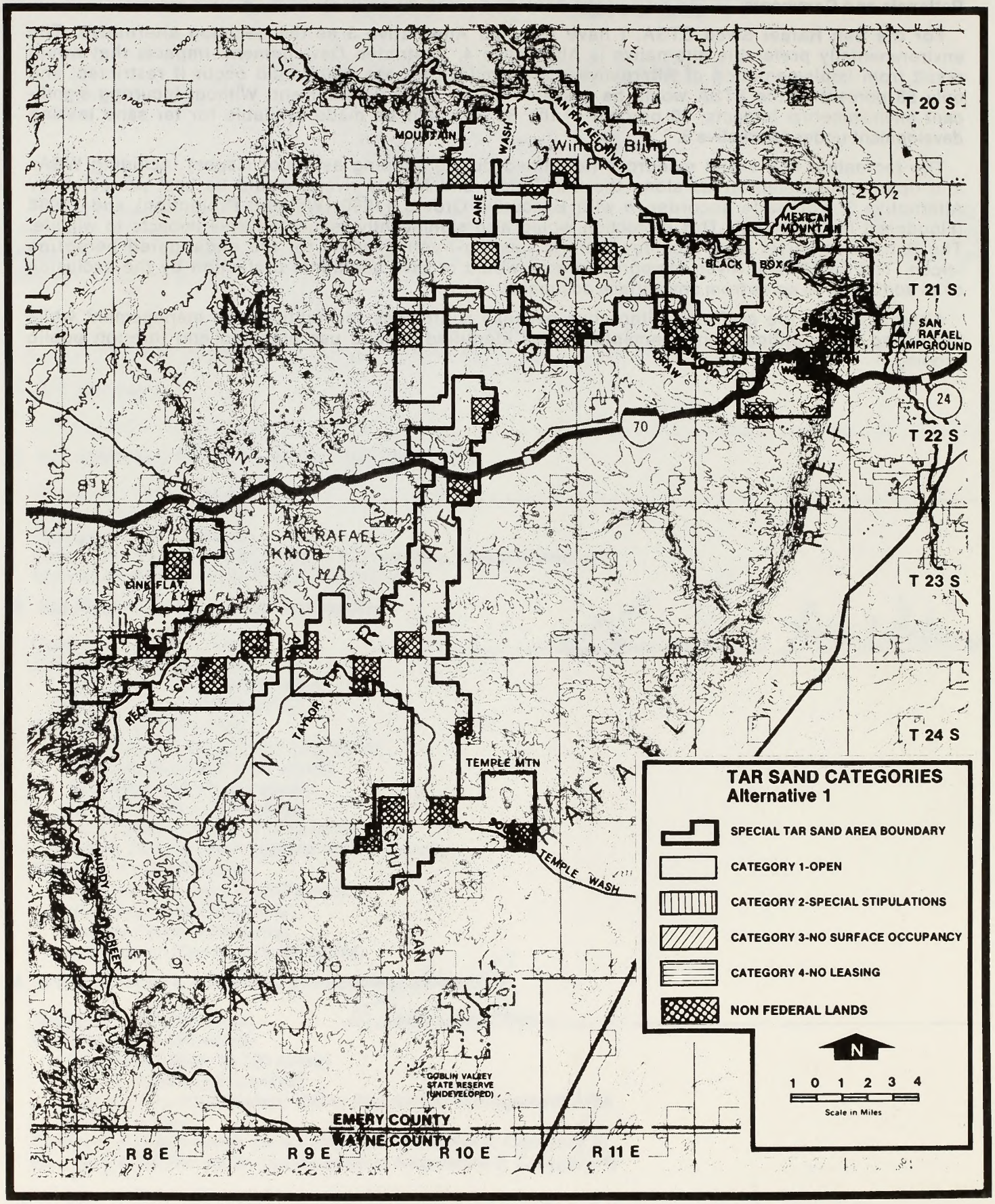


FIGURE 2

ALTERNATIVE 1, SAN RAFAEL SWELL STSA

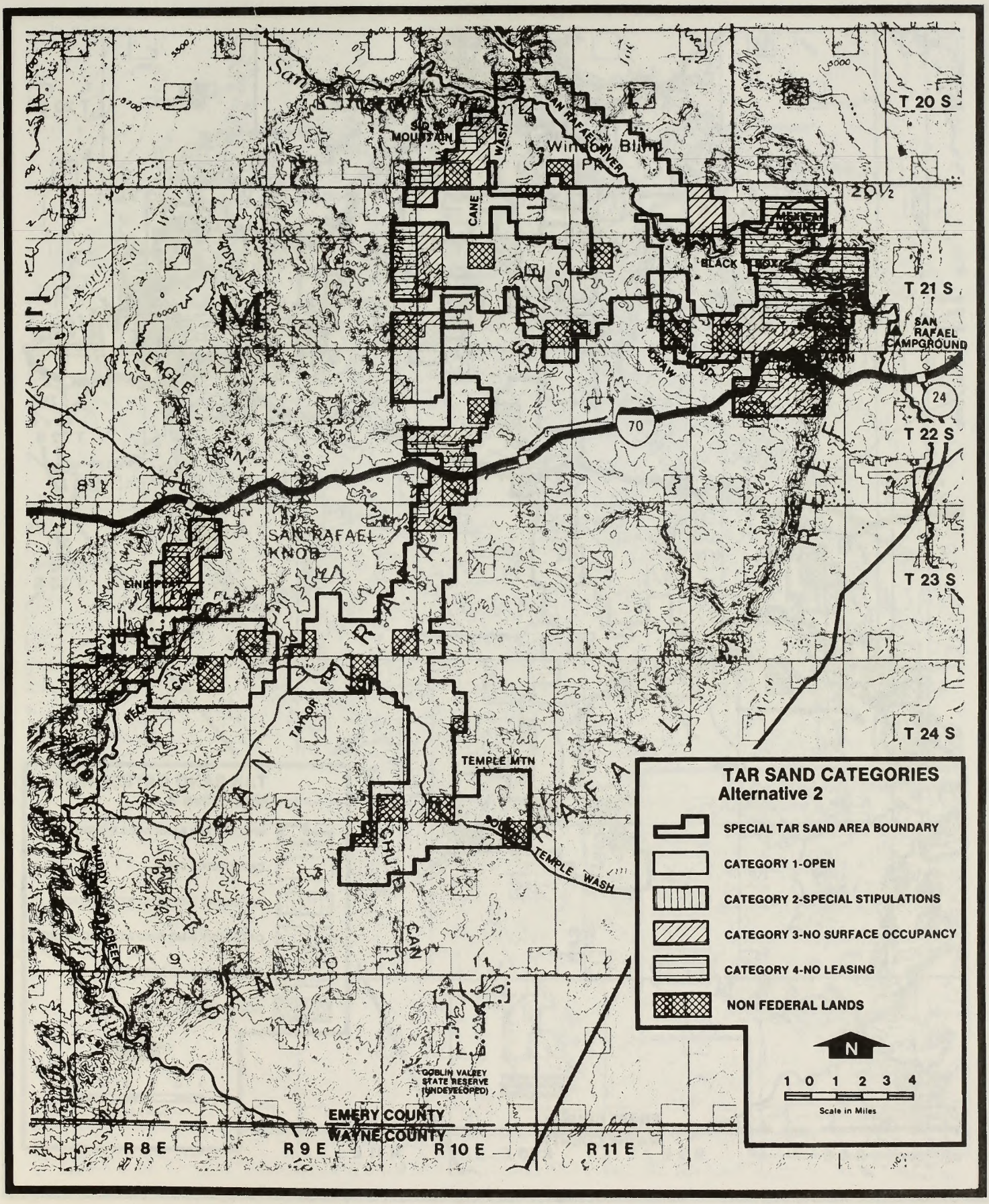


FIGURE 3

ALTERNATIVE 2, SAN RAFAEL SWELL STSA

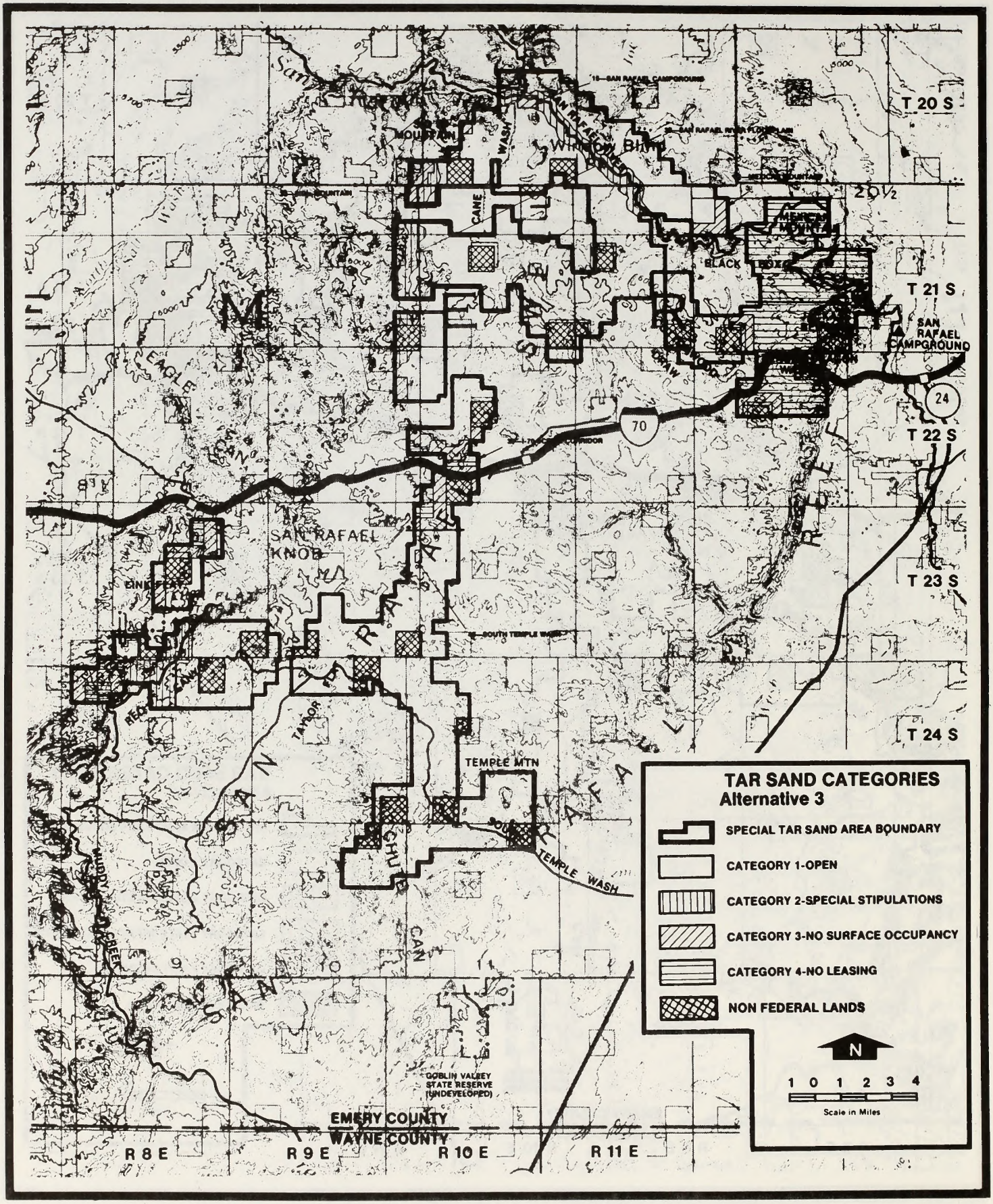


FIGURE 4

ALTERNATIVE 3, SAN RAFAEL SWELL STSA

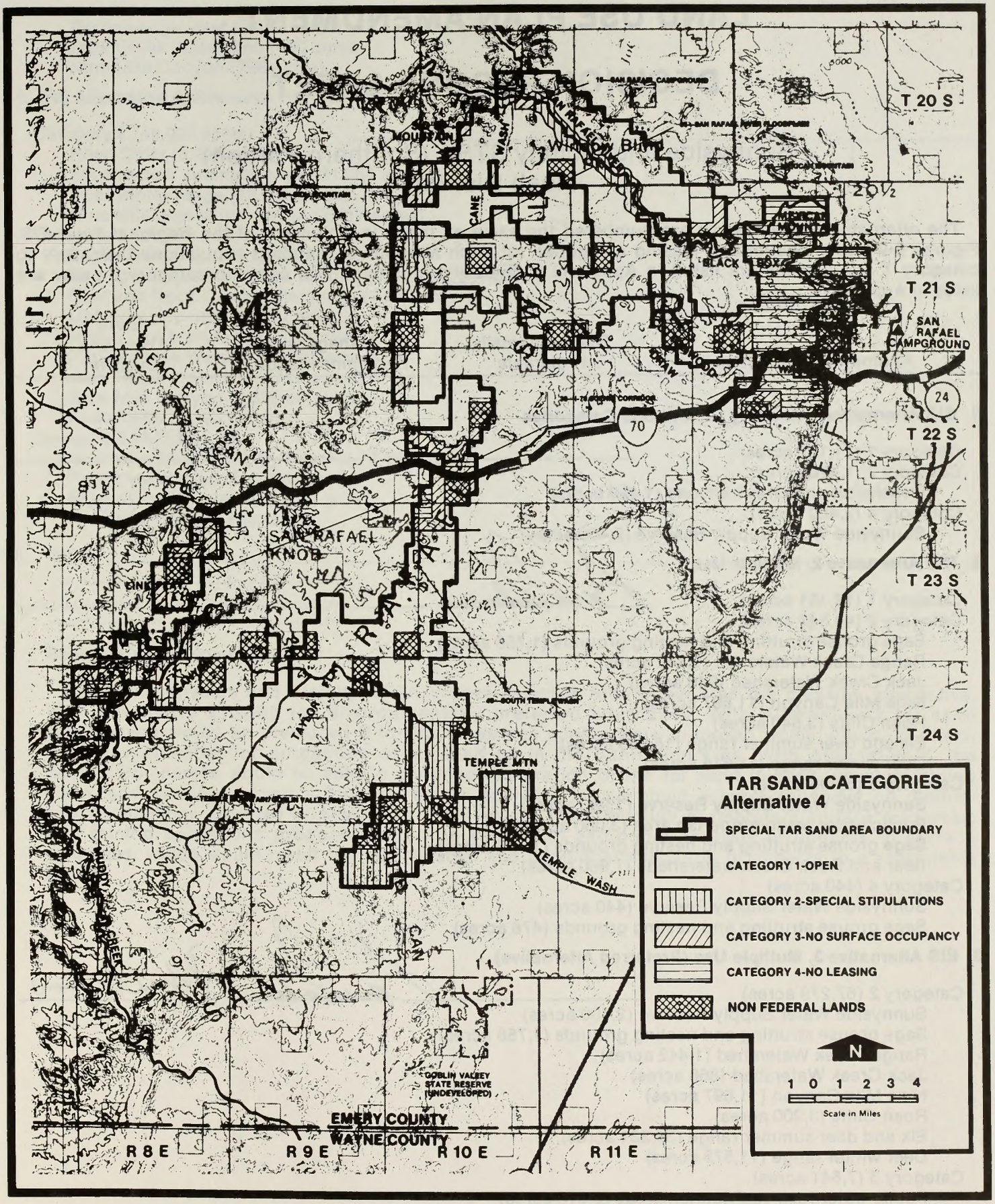


FIGURE 5

ALTERNATIVE 4, SAN RAFAEL SWELL STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion)
Moab District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 6-9 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, Existing Oil and Gas Categories			
Category 1 (71,167 acres) Category 2 (1,420 acres) Desolation and Gray canyons (1,420 acres) Category 4 (2,400 acres) Sunnyside Water Supply Reserve (2,400 acres)			
2. EIS Alternative 2, Multiple Use			
Category 1 (16,161 acres) Category 2 (49,343 acres) Sage grouse strutting and nesting grounds (1,758 acres) Range Creek Watershed (1,442 acres) Jack Creek Watershed (946 acres) Nine Mile Canyon (11,697 acres) Roan Cliffs (3,840 acres) Elk and deer summer range (18,045 acres) Deer winter range (11,615 acres) Category 3 (8,996 acres) Sunnyside Water Supply Reserve (1,960 acres) Public water reserve/riparian area (3,060 acres) Sage grouse strutting and nesting grounds (1,758 acres) Bear and Rock Creek watersheds (1,960 acres) Category 4 (440 acres) Sunnyside Water Supply Reserve (440 acres) Sage grouse strutting and nesting grounds (478 acres)			
3. EIS Alternative 3, Multiple Use (Preferred Alternative)			
Category 2 (67,279 acres) Sunnyside Water Supply Reserve (2,400 acres) Sage grouse strutting and nesting grounds (1,758 acres) Range Creek Watershed (1,442 acres) Jack Creek Watershed (866 acres) Nine Mile Canyon (11,697 acres) Roan Cliffs (3,200 acres) Elk and deer summer range (34,331 acres) Deer winter range (11,575 acres) Category 3 (7,641 acres) Public water reserves/riparian areas (3,615 acres) Sage grouse strutting and nesting grounds (478 acres) Bear and Rock Creek watersheds (1,960 acres)			

Golden eagle nest (3,389 acres)
Jack Creek Watershed (400 acres)
Nine Mile Canyon (799 acres)

4. EIS Alternative 4, Resource Protection

Category 2 (49,098 acres)
Roan Cliffs (3,200 acres)
Elk and deer summer range (31,384 acres)
Deer winter range (12,088 acres)
Nine Mile deer winter range (2,417 acres)
Category 3 (20,918 acres)
Public water reserve (2,439 acres)
Sage grouse strutting and nesting ground (2,236 acres)
Bear and Rock Creek watersheds (1,560 acres)
Golden eagle nest (389 acres)
Aspen communities (3,062 acres)
Range Creek Watershed (880 acres)
Jack Creek Watershed (793 acres)
Nine Mile Canyon (9,559 acres)
Roan Cliffs (3,200 acres)
Category 4 (4,903 acres)
Sunnyside Water Supply Reserve (2,400 acres)
Public water reserve (1,581 acres)
Range Creek Watershed (201 acres)
Nine Mile Canyon (520 acres)

5. Other _____

Rationale and Comments:

For the Sunnyside and Vicinity STSA, I have selected Alternative 3 as the decision alternative, with Alternative 2 being the environmentally preferred alternative. With Alternative 2 tar sand development would be precluded if in-situ or surface mining were proposed which would, in effect, deny any potential for production of tar sand oil in the Sunnyside area. With Alternative 3, the mineral companies would be able to continue exploration of the tar sand deposit, develop mining plans, and possibly submit a proposal for an operation which could achieve economic oil production. Stipulations provided in Alternative 3 will ensure the protection of important surface resources. Any mining operations proposed would be subject to additional analysis of impacts to surface resources, which would result in more detailed and additional mitigation of impacts to a reasonable extent.

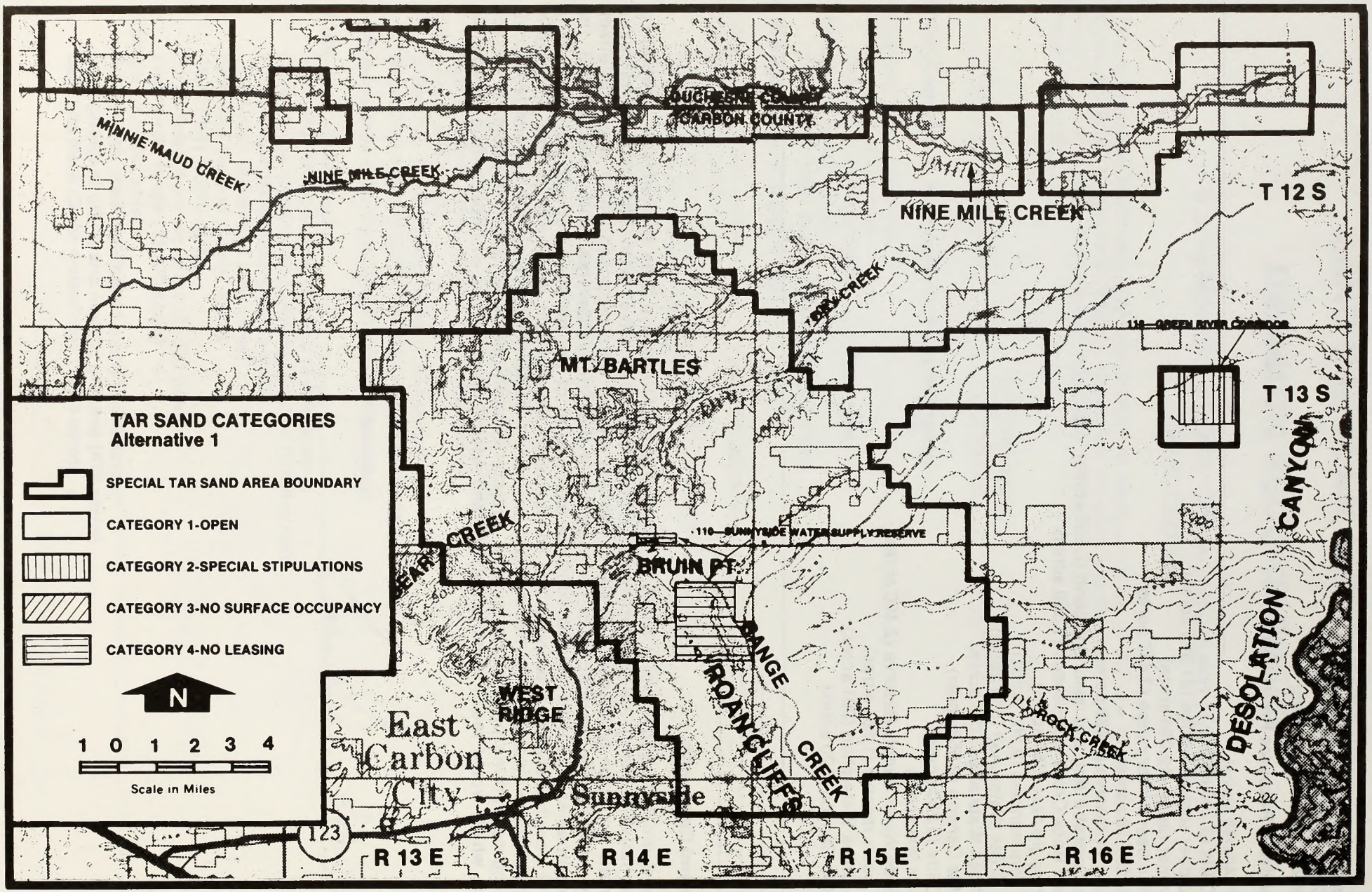


FIGURE 6

ALTERNATIVE 1, SUNNYSIDE AND VICINITY STSA (SOUTHERN PORTION)

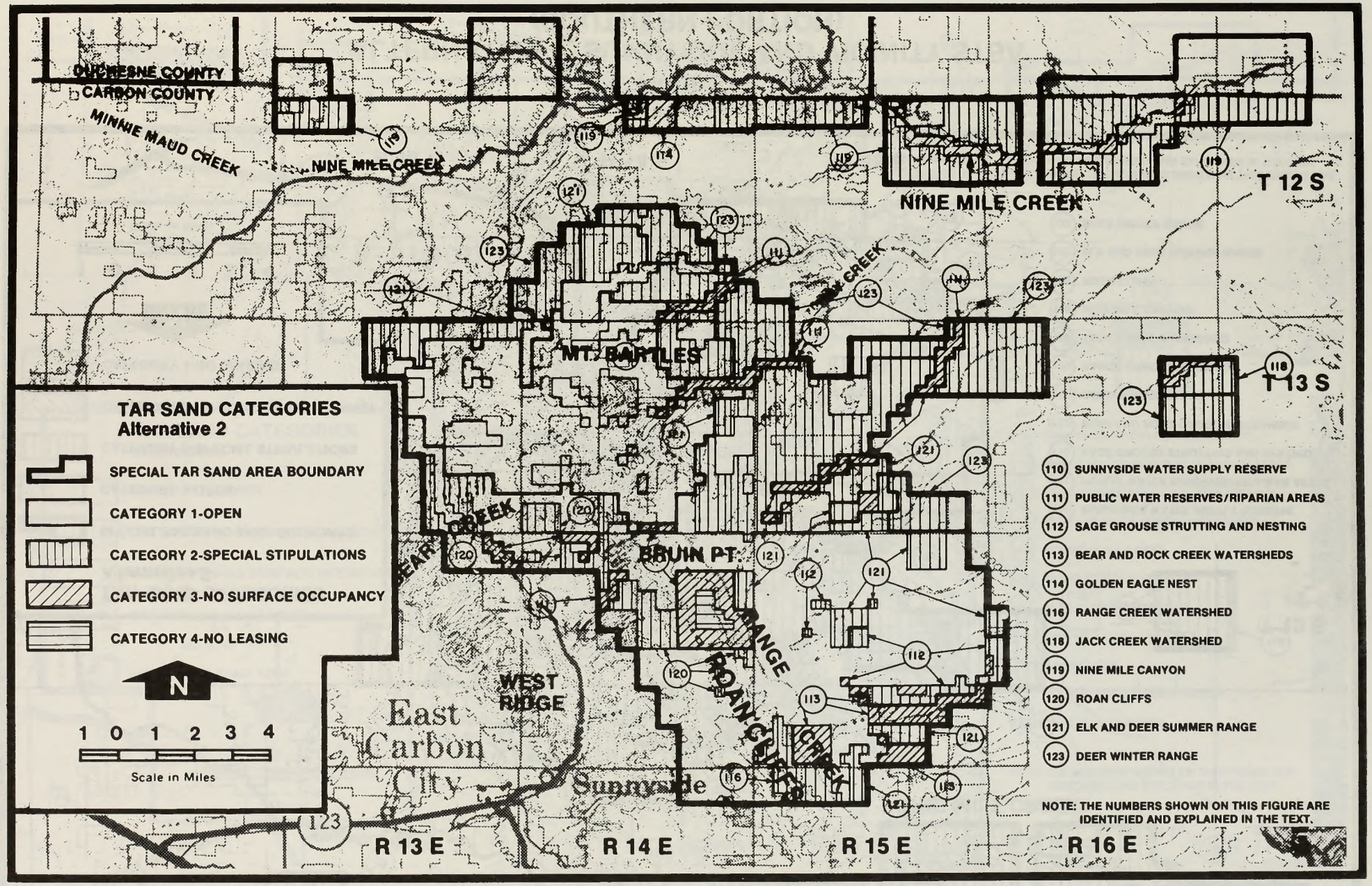


FIGURE 7

ALTERNATIVE 2, SUNNYSIDE AND VICINITY STSA (SOUTHERN PORTION)

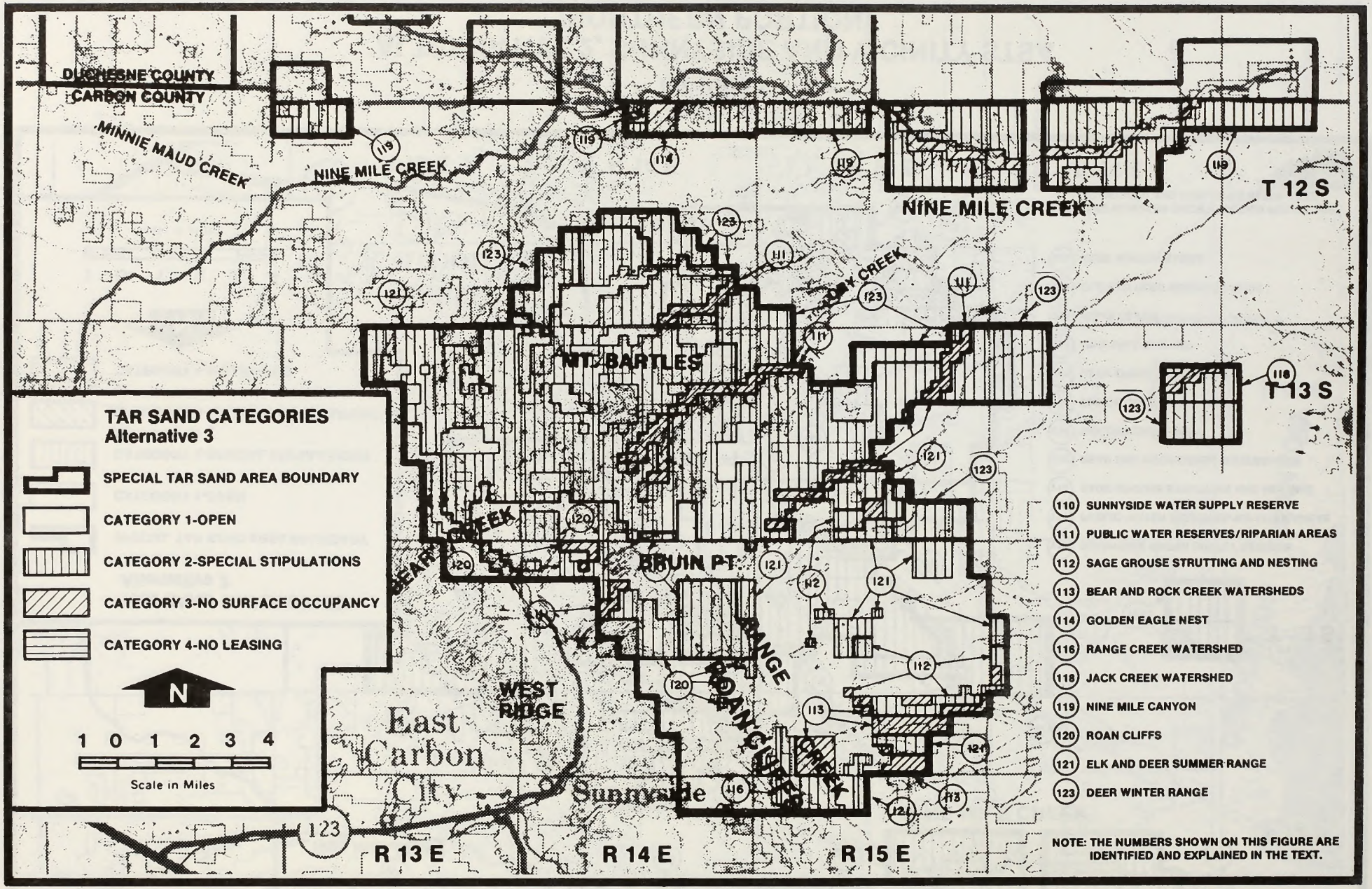


FIGURE 8

ALTERNATIVE 3, SUNNYSIDE AND VICINITY STSA (SOUTHERN PORTION)

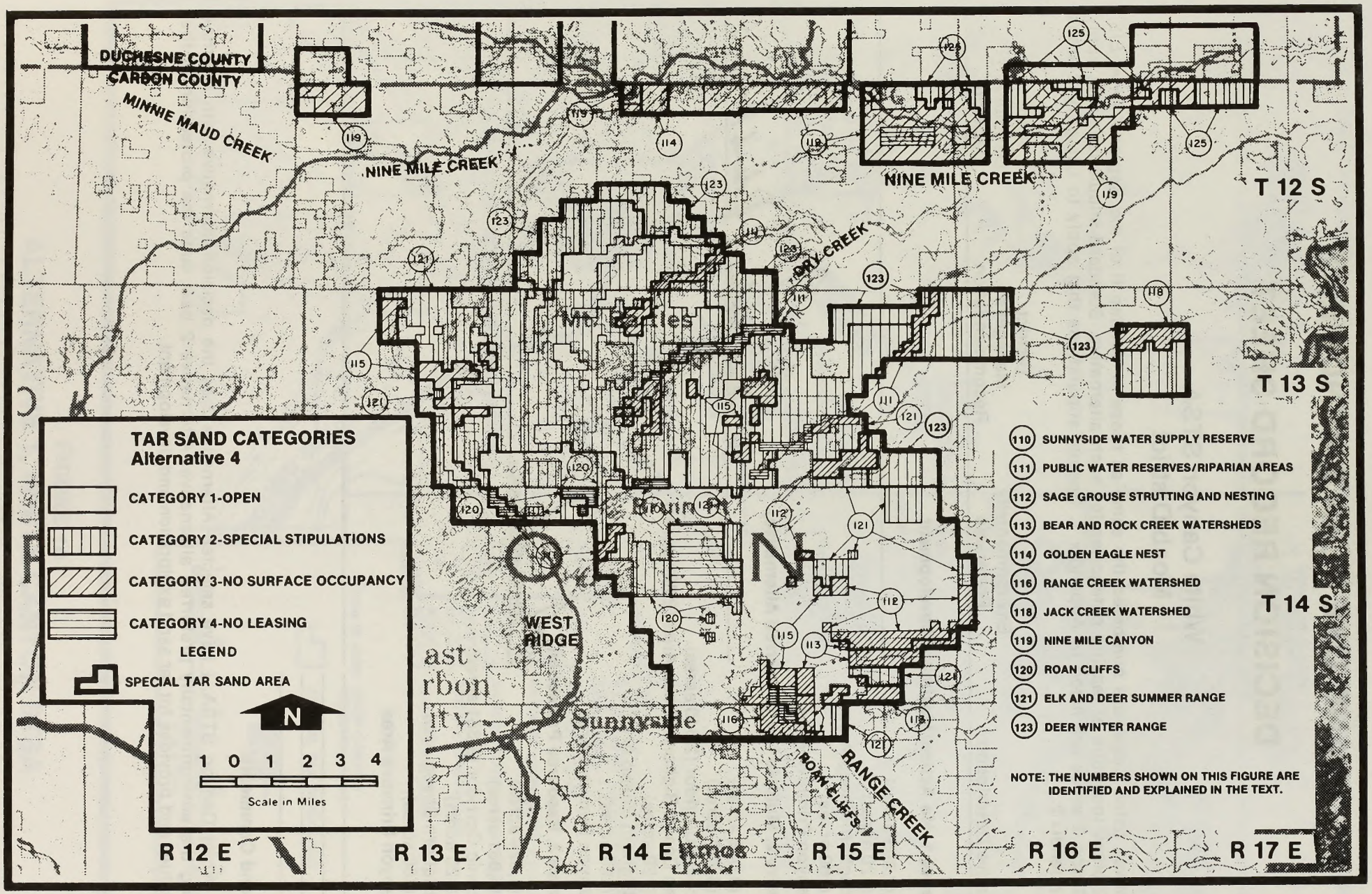


FIGURE 9

ALTERNATIVE 4
SUNNYSIDE AND VICINITY SPECIAL TAR SAND AREA
(SOUTHERN PORTION)

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

White Canyon STSA
Moab District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 10-12 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, No Action/Maximum Development			
Category 1 (7,805 acres) Category 3 (120 acres) Desert Bighorn Sheep Area Category 4 (160 acres) Dark Canyon Primitive Area			
2. EIS Alternative 2, Multiple Use (Preferred Alternative)			
Category 1 (3,078 acres) Category 2 (4,727 acres) U-95 Scenic Corridor (2,340 acres) San Juan Desert Bighorn Sheep Area (2,398 acres) Category 3 (120 acres) Desert Bighorn Sheep Area Category 4 (160 acres) Dark Canyon Primitive Area			
3. EIS Alternative 3, Resource Protection			
Category 1 (1,924 acres) Category 2 (5,881 acres) U-95 Scenic Corridor (5,881 acres) Category 3 (120 acres) Desert Bighorn Sheep Area Category 4 (160 acres) Dark Canyon Primitive Area			
4. Other			

Rationale and Comments:

For the White Canyon STSA, I have selected Alternative 2 as the decision alternative with Alternative 3 being the environmentally preferred alternative. Alternative 2 best suits the protection of the resource values and provides for tar sand exploration and development.

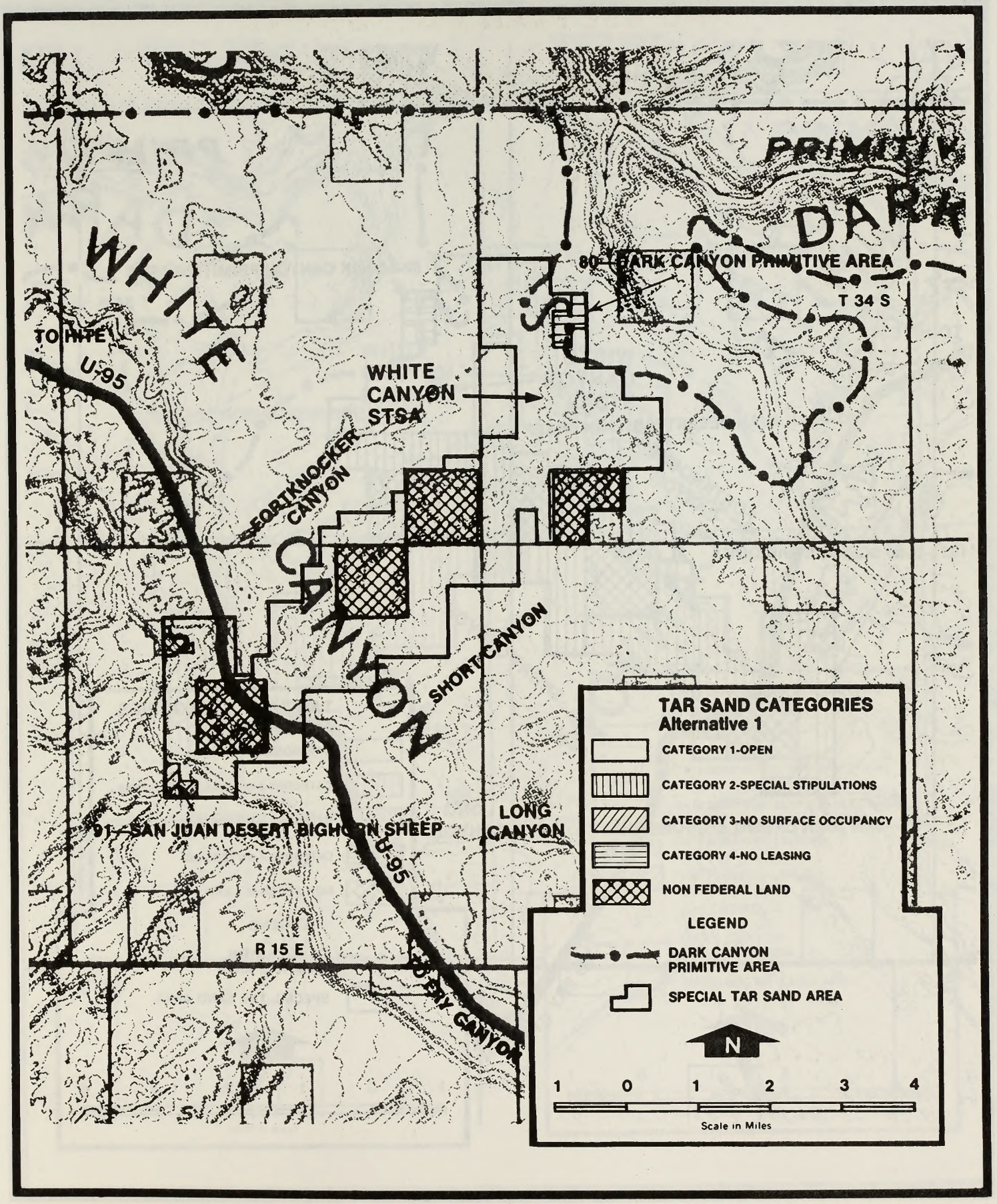


FIGURE 10

ALTERNATIVE 1, WHITE CANYON STSA

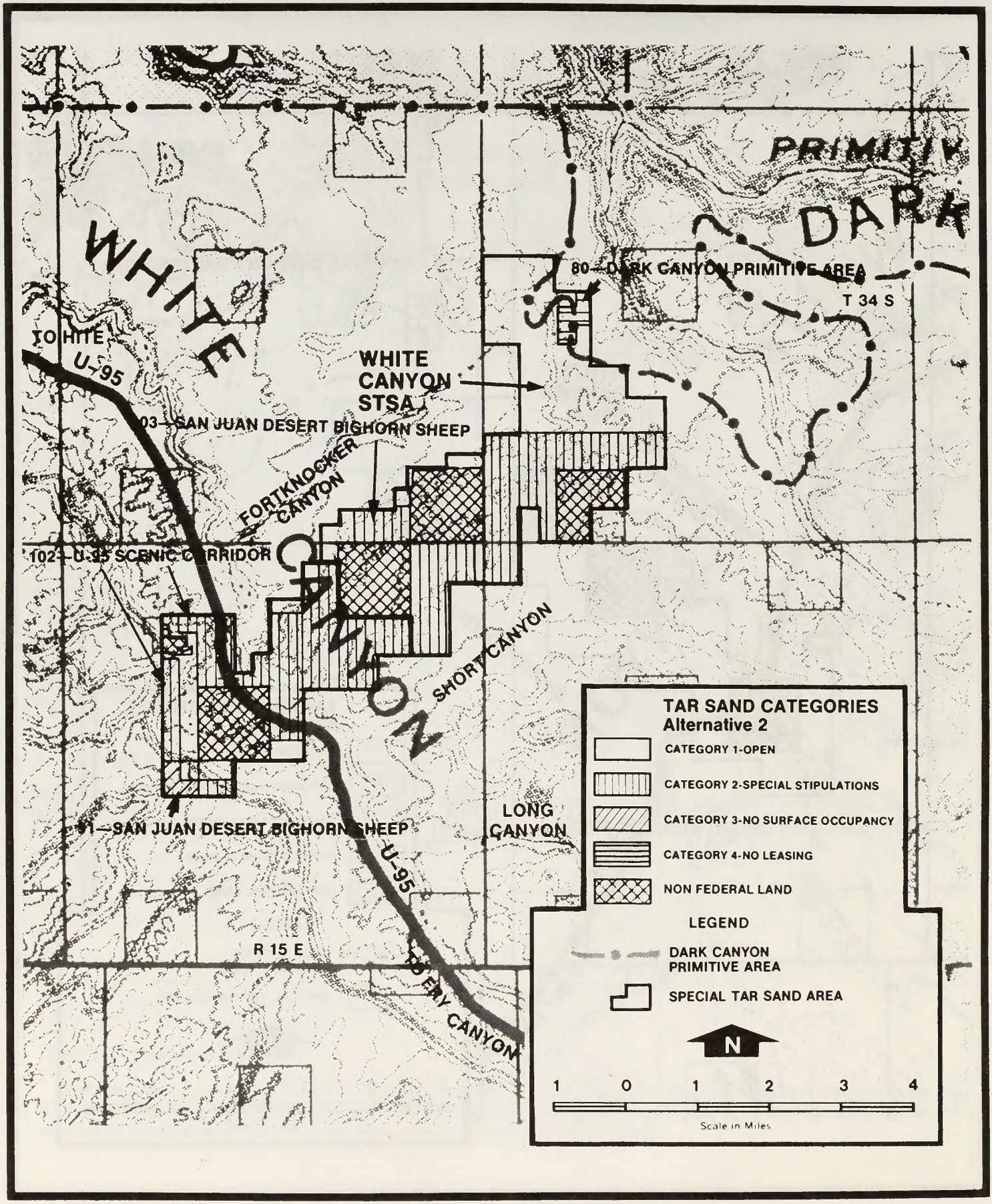


FIGURE 11

ALTERNATIVE 2, WHITE CANYON STSA

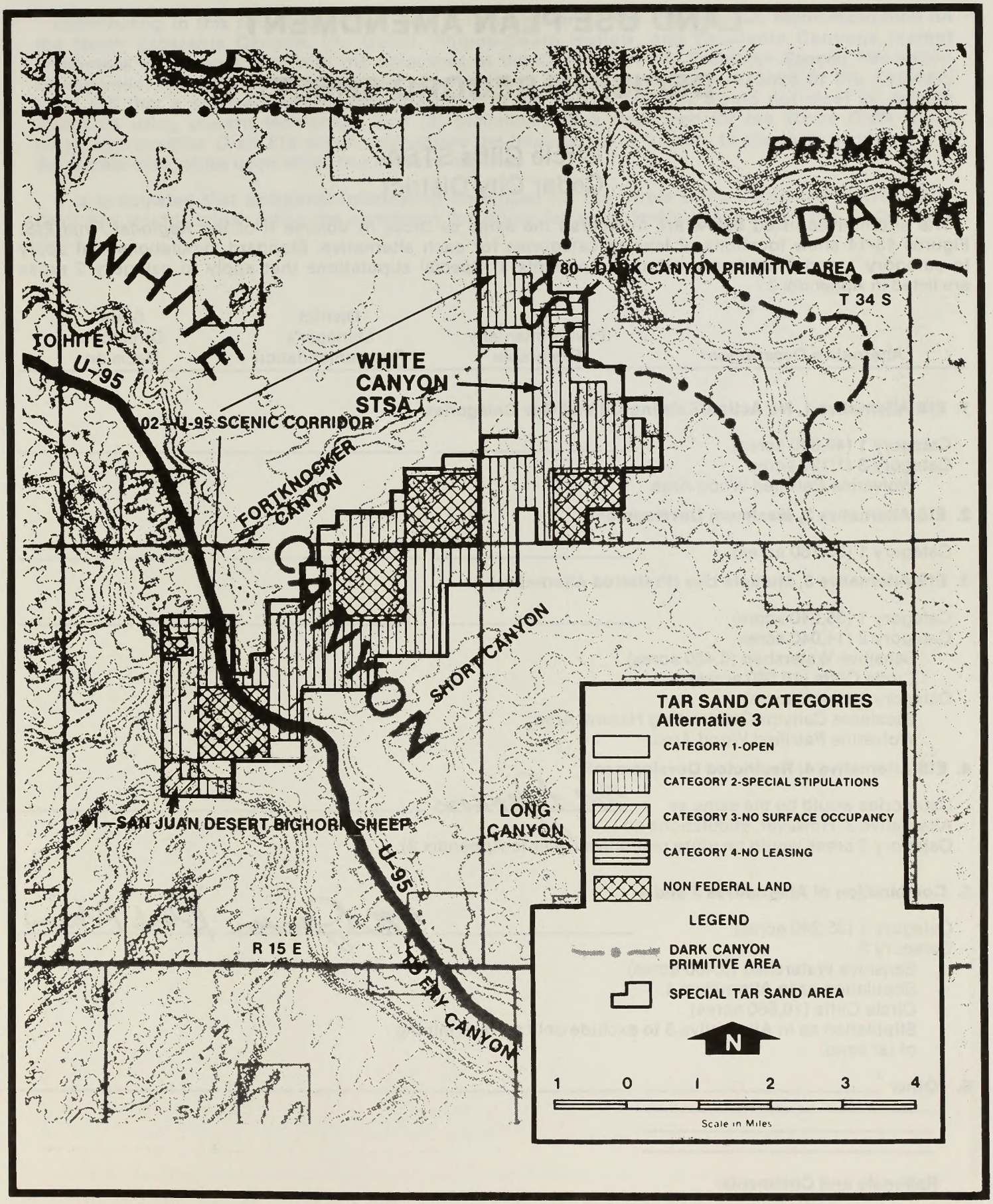


FIGURE 12

ALTERNATIVE 3, WHITE CANYON STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Circle Cliffs STSA
Cedar City District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 13-14 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, No Action/Existing Oil and Gas Categories			
Category 1 (49,640 acres) Category 3 (1,120 acres Wolverine Petrified Wood Area.			
2. EIS Alternative 2, Maximum Development			
Category 1 (50,760 acres)			
3. EIS Alternative 3, Multiple Use (Preferred Alternative)			
Category 1 (35,240 acres) Category 2 (14,040 acres Sensitive Watershed (3,480 acres) Circle Cliffs (10,560 acres) Category 3 (1,480 acres) Escalante Canyon Outstanding Natural Area Wolverine Petrified Wood Area.			
4. EIS Alternative 4, Restricted Development			
Categories would be the same as Alternative 3. However, stipulations on Category 2 areas would be more restrictive (refer to Appendix 2).	M.S. Jensen		
5. Combination of Alternatives 3 and 4			
Category 1 (35,240 acres) Category 2 Sensitive Watershed (3,480 acres) Stipulation as in Alternative 4. Circle Cliffs (10,560 acres) Stipulation as in Alternative 3 to exclude only surface mining of tar sand.		M.S. Jensen	Robert Robison
6. Other			

Rationale and Comments:

Alternative 5 would permit future development of tar sand on approximately 85 percent of the available Federal lands. It would also provide protection to certain critical nonenergy resource values.

Contributing to this recommendation was (1) its consistency with the previous recommendation on the North Escalante Canyon, the Gulch, Phipps-Death Hollow, and Escalante Canyons Instant Wilderness Study Area, and with the objectives ot the *Canyons of the Escalante Special Recreation Management Area Plan* presently under development; (2) the conclusion reached in the *Regional Final EIS* that a commercial production level of 20,000 barrels per day would not meet air quality standards using present technology; and (3) preliminary data developed for the *Circle Cliffs Combined Hydrocarbon Draft EIS* which emphasizes the importance of tourism to the local economy and the recreational values upon which this industry depends.

It is anticipated that additional information developed for the *Circle Cliffs Combined Hydrocarbon Draft EIS* would further refine the conditions for future tar sand development within the Circle Cliffs STSA.

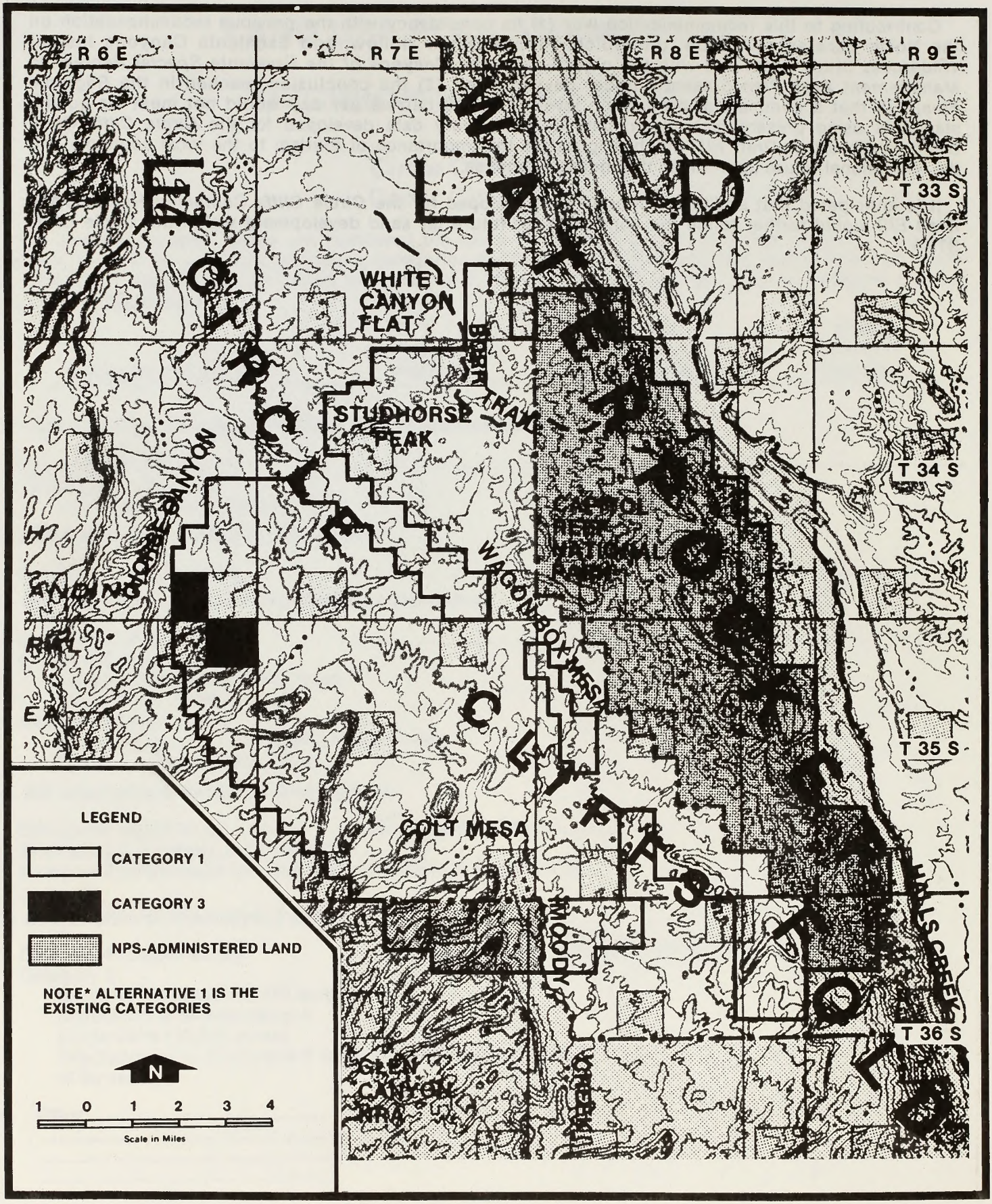


FIGURE 13

ALTERNATIVE 1
CIRCLE CLIFFS STSA

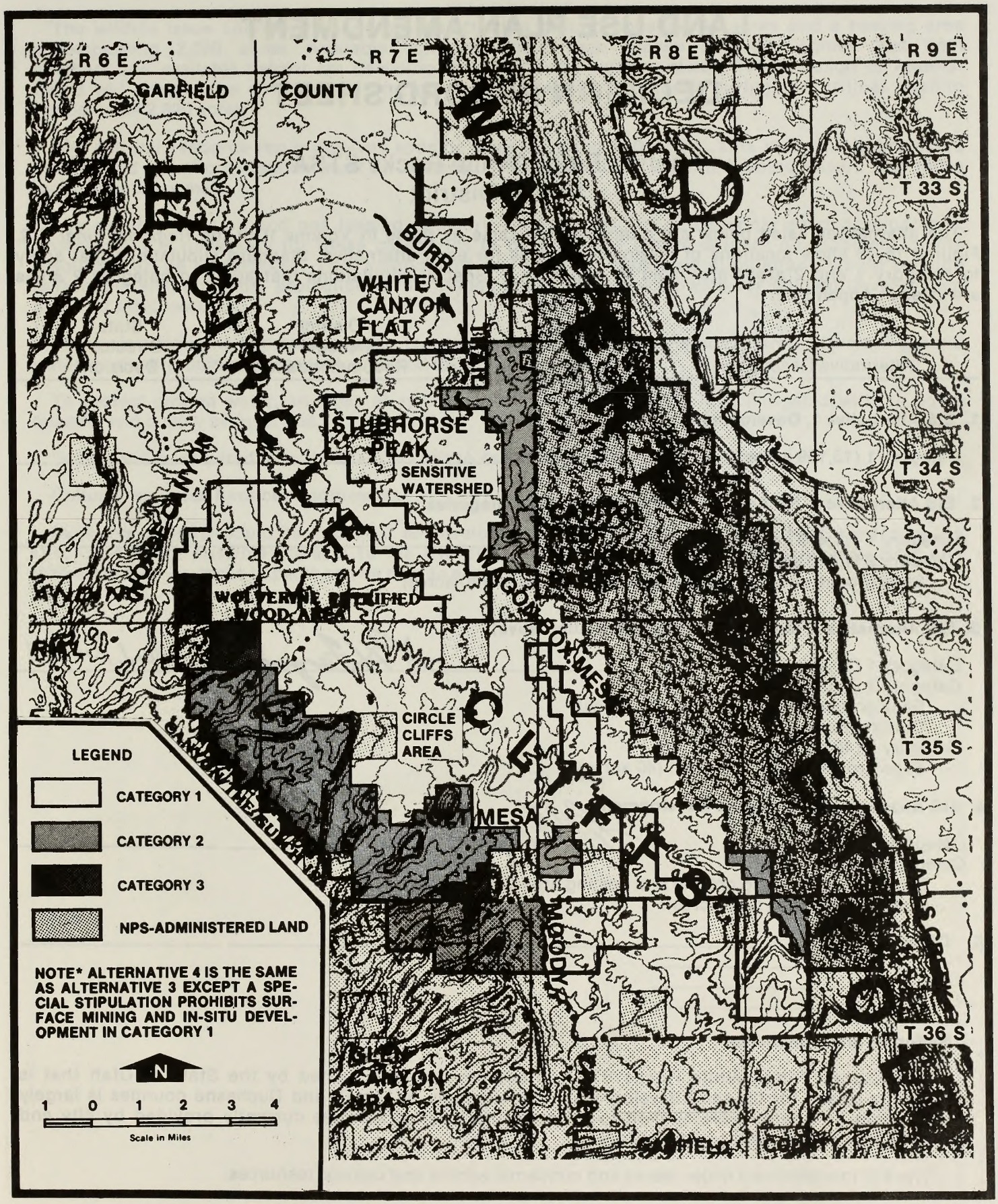


FIGURE 14

ALTERNATIVES 3 AND 4
CIRCLE CLIFFS STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Asphalt Ridge/White Rocks STSA
Vernal District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 15-18 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, Development			
Category 1 (13,169 acres)			
2. EIS Alternative 2, No Action/Existing Oil and Gas Categories			
Category 1 (11,449 acres) Category 2 (1,720 acres) Sage grouse strutting ground and nesting area (1,720 acres)			
3. EIS Alternative 3, Multiple Use (Preferred Alternative)			
Category 1 (10,609 acres) Category 2 (2,520 acres) Sage grouse strutting area (2,320 acres) Cultural resources (200 acres) Category 3 (40 acres) Sage grouse strutting ground (40 acres)		L H Ferguson	Roland Robison
4. EIS Alternative 4, Restricted Development			
Category 1 (10,609 acres) Category 3 (2,560 acres) Sage grouse strutting ground and nesting area (2,360 acres) Cultural resources (200 acres)		L H Ferguson	
5. Other			

Rationale and Comments:

The Asphalt Ridge/White Rocks STSA is adjacent to land owned by the State of Utah that is currently leased for tar sand development. The economy of Uintah and Duchesne counties is largely dependent on energy development to maintain the level of services currently provided by city and county governments and private business.

The EIS identified two major issues and concerns: wildlife and cultural resources.

The wildlife issue concerns a sage grouse strutting ground covering 40 acres and a nesting area encompassing 2,320 acres. Available literature about sage grouse generally agrees that both numbers and available habitat are declining throughout the western states. The selection of Alternative 3 will protect the 40-acre strutting ground and restrict activitives during the critical nesting period on all 2,320 acres.

The cultural resource issue involves specific sites covering 200 acres. This resource is protected by law, and specific mitigation must be enforced. The stipulations identified would ensure that these requirements are met.

The existing BLM oil and gas leasing category system does not consider tar sand development. Therefore, it is necessary for these categories to be amended before diligent development of the resource can be undertaken. This amendment and the accompanying stipulations would provide reasonable environmental protection of the issues identified while allowing for diligent development of the tar sand resource.

The major concerns expressed during the comment period on the *Regional Draft EIS* were ground water, air quality, cultural resources, and land use.

To protect ground water, any loss of springs or ground water will be fully mitigated with an equal quantity and quality of water lost.

Permits will be required from the State of Utah to assure the protection of air quality.

Cultural resources have been addressed.

Land use patterns could be impacted as development occurred. We recognize the concerns of the Ute Tribe about possible impacts to the Ute people. If development is undertaken in a slow and deliberate manner, these impacts can be held to a minimum.

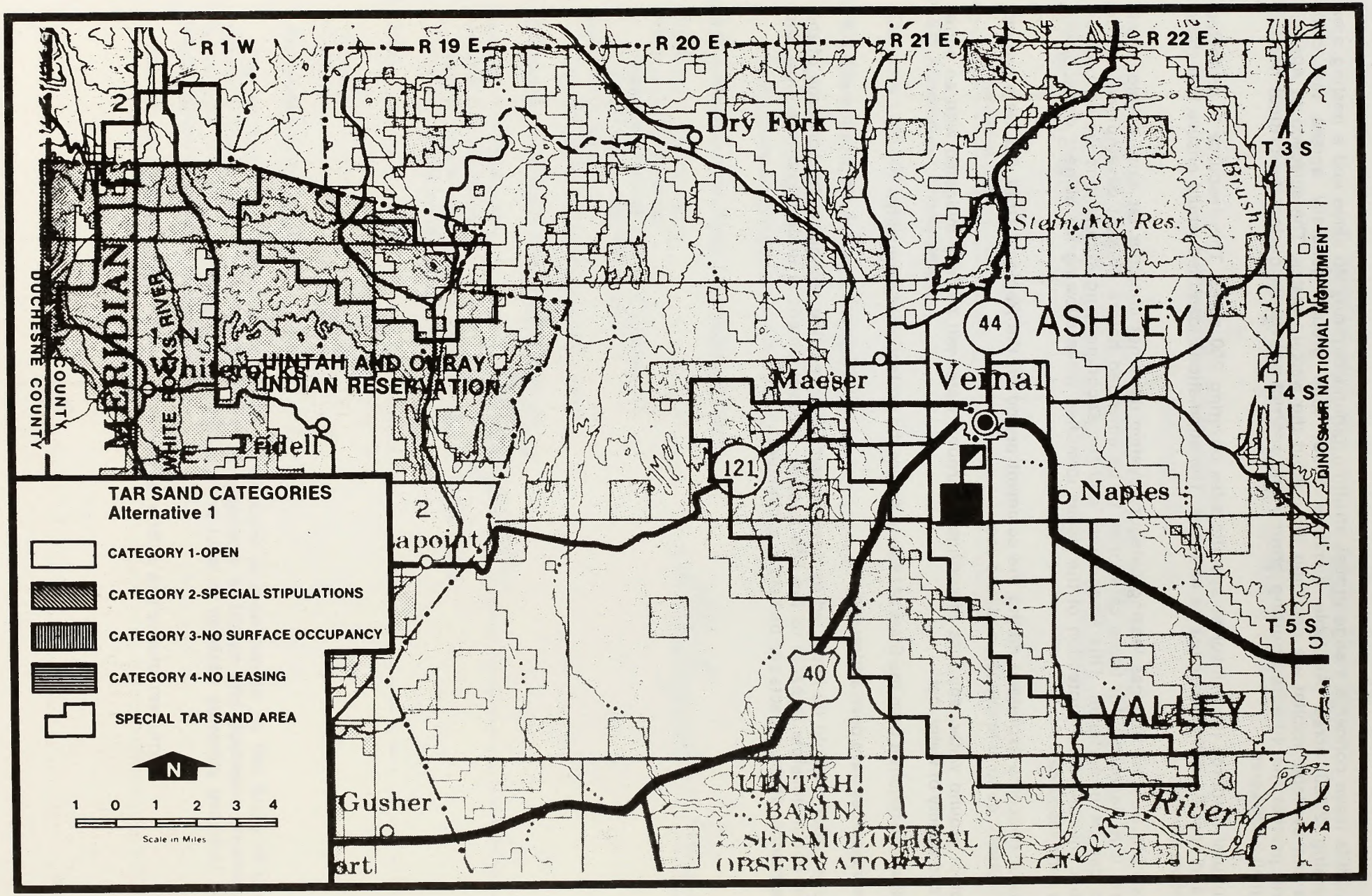


FIGURE 15

ALTERNATIVE 1, ASPHALT RIDGE/WHITE ROCKS STSA

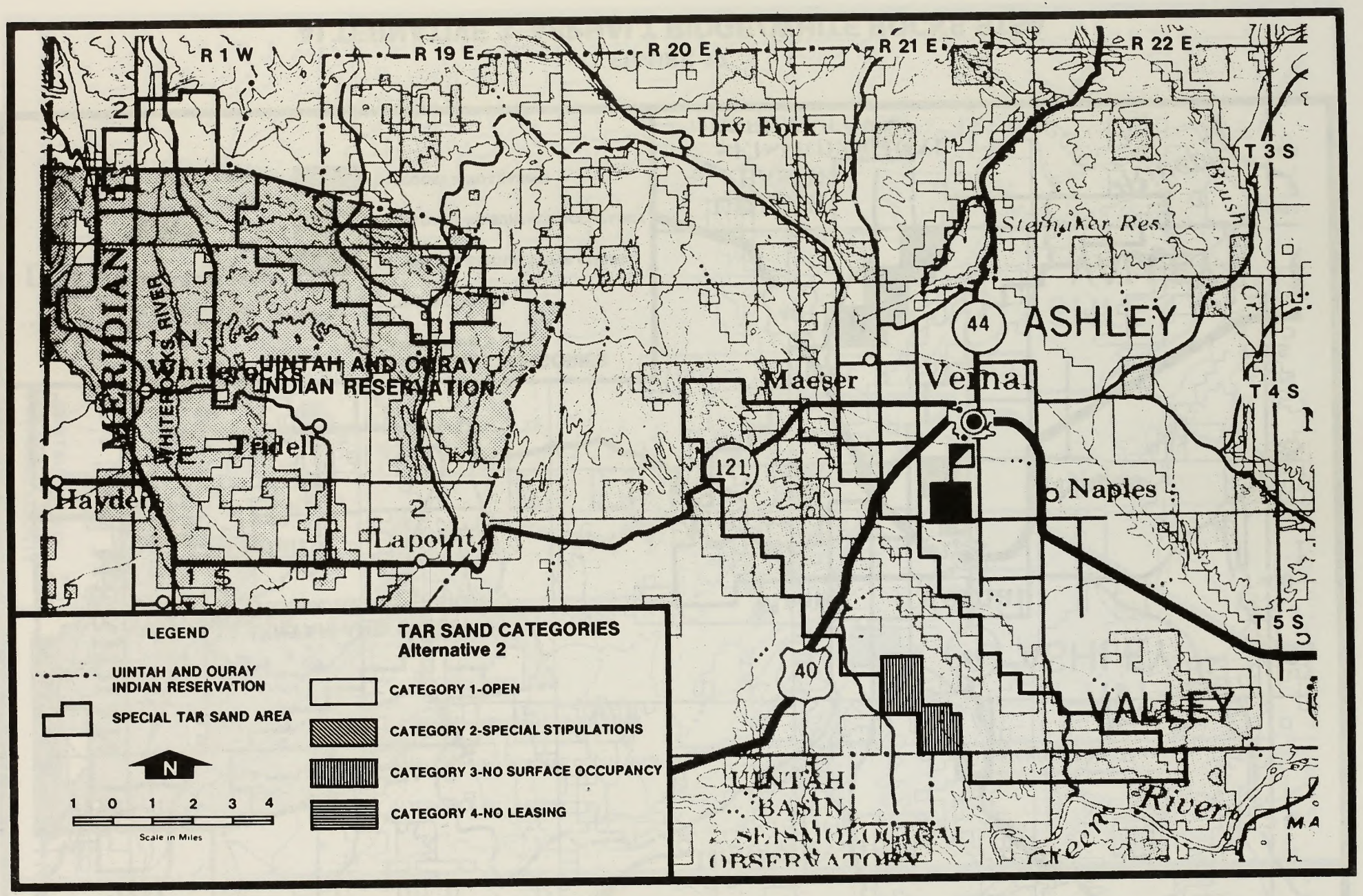


FIGURE 16

ALTERNATIVE 2, ASPHALT RIDGE/WHITE ROCKS STSA

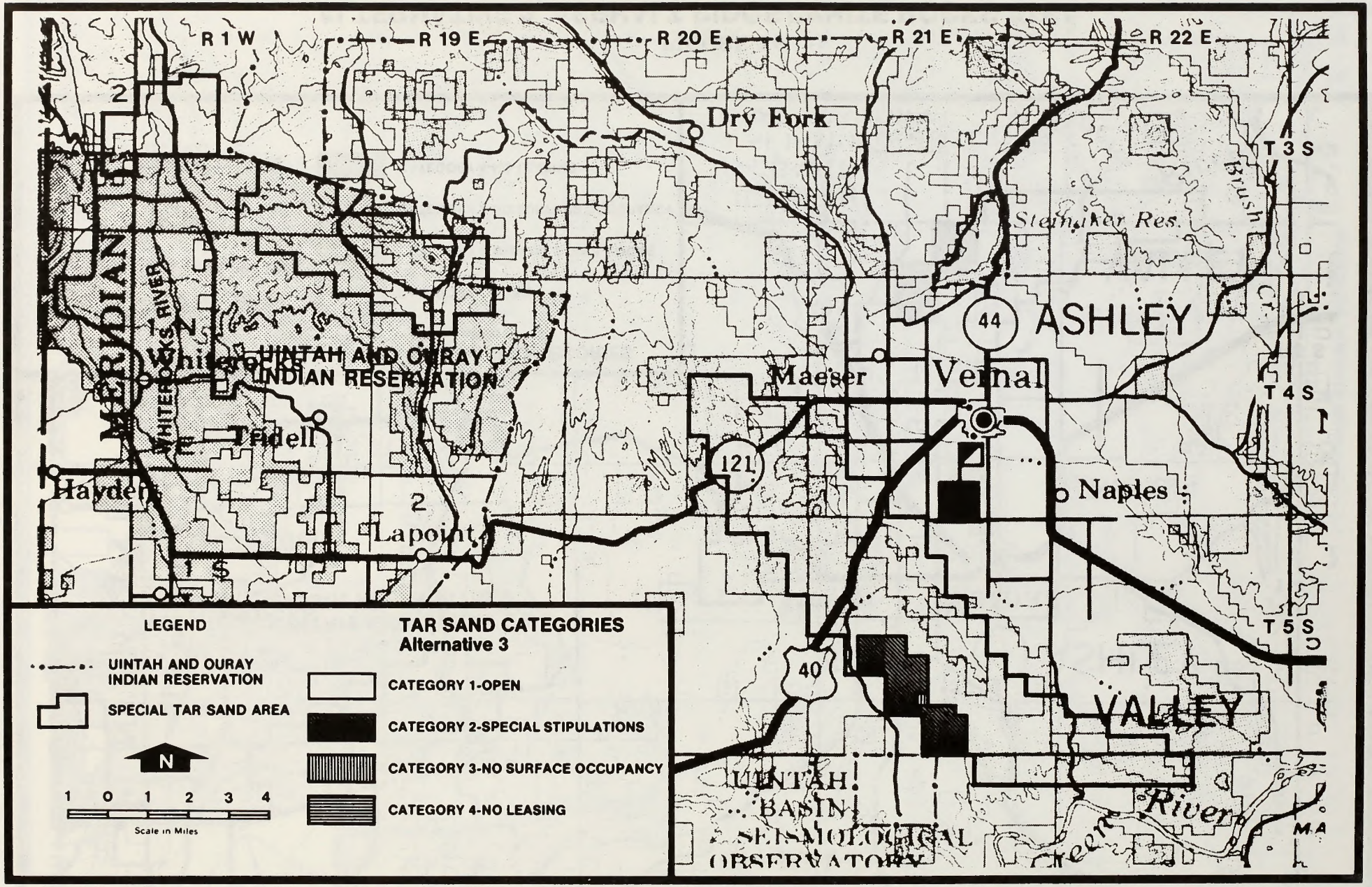


FIGURE 17

ALTERNATIVE 3, ASPHALT RIDGE/WHITE ROCKS STSA

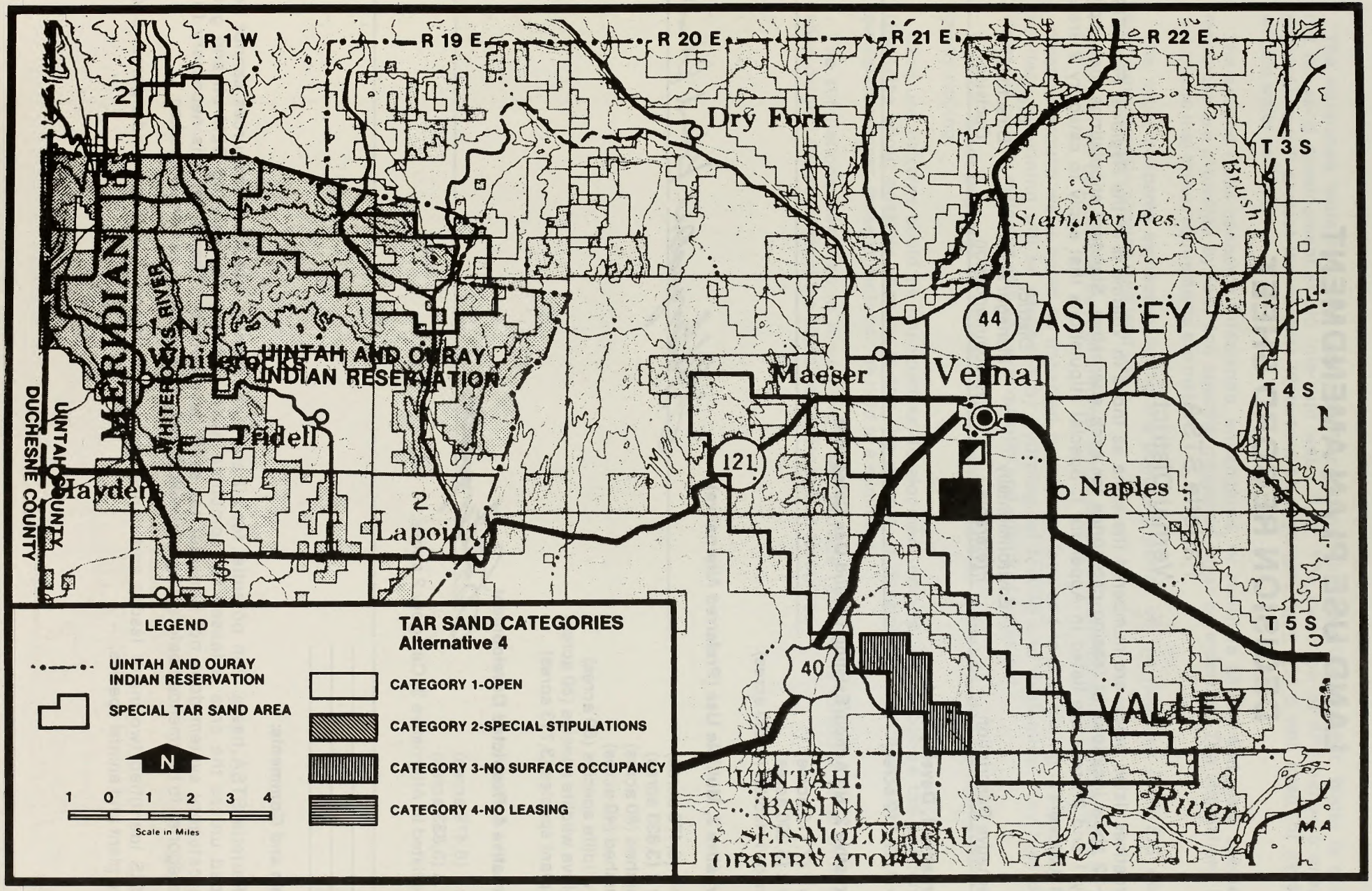


FIGURE 18

ALTERNATIVE 4, ASPHALT RIDGE/WHITE ROCKS STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Pariette STSA
Vernal District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 19-22 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, Development			
Category 1 (12,312 acres)			
2. EIS Alternative 2, No Action/Existing Oil and Gas Categories			
Category 1 (7,112 acres) Category 2 (5,200 acres) Waterfowl Habitat (5,200 acres)			
3. EIS Alternative 3, Multiple Use (Preferred Alternative)			
Category 1 (8,479 acres) Category 2 (3,833 acres) Watershed (80 acres) Watershed (40 acres) T&E wildlife species (80 acres) Sensitive wildlife species (80 acres) T&E plant species (3,713 acres)		L H Ferguson	Roland Robison
4. EIS Alternative 4, Restricted Development			
Category 1 (8,479 acres) Category 3 (3,833 acres) Areas listed in Alternative 3, Category 2 above.		L H Ferguson	
5. Other			

Rationale and Comments:

The Pariette STSA has a high potential for oil and gas reserves, but these resources cannot be developed unless the area is leased for combined hydrocarbons. The existing BLM oil and gas leasing category system does not consider tar sand development. Therefore, it is necessary for these categories to be amended before diligent development of the resource can be undertaken.

The EIS identified two major issues and concerns: watershed and threatened, endangered, and sensitive plant and animal species.

The watershed issue concerns wetlands, floodplains, and waterfowl habitat. Water is scarce, and full tar sand development could interrupt water flow. The selection of Alternative 3 ensures that stipulations will protect the Pariette Waterfowl Management Area and a well used for livestock and wildlife water sources.

The second issue concerns threatened, endangered, or sensitive animal and plant species. These resources are protected by law, and specific mitigation must be enforced. The stipulations identified will ensure that these requirements are met.

The major concerns expressed during the comment period on the *Regional Draft EIS* were waterfowl, ground water, erosion, and land use.

Waterfowl will be protected through enforcement of the stipulations identified in Alternative 3.

Shallow ground water could be impacted by both surface and in-situ mining. To protect important aquifers, all mining will be preceded by hydrological testing and evaluation. Any loss of ground water will be fully mitigated with an equal quantity and quality of water lost.

Erosion is not expected to increase significantly. Rainfall is limited, and the topography is flat to gently sloping.

Land use patterns could be impacted as development occurs. We recognize the concerns of the Ute Tribe about possible impacts to the Ute people. If development is undertaken in a slow and deliberate manner, these impacts can be held to a minimum.

The stipulations identified in Alternative 3 will provide reasonable environmental protection and allow diligent development of the combined hydrocarbon resources.

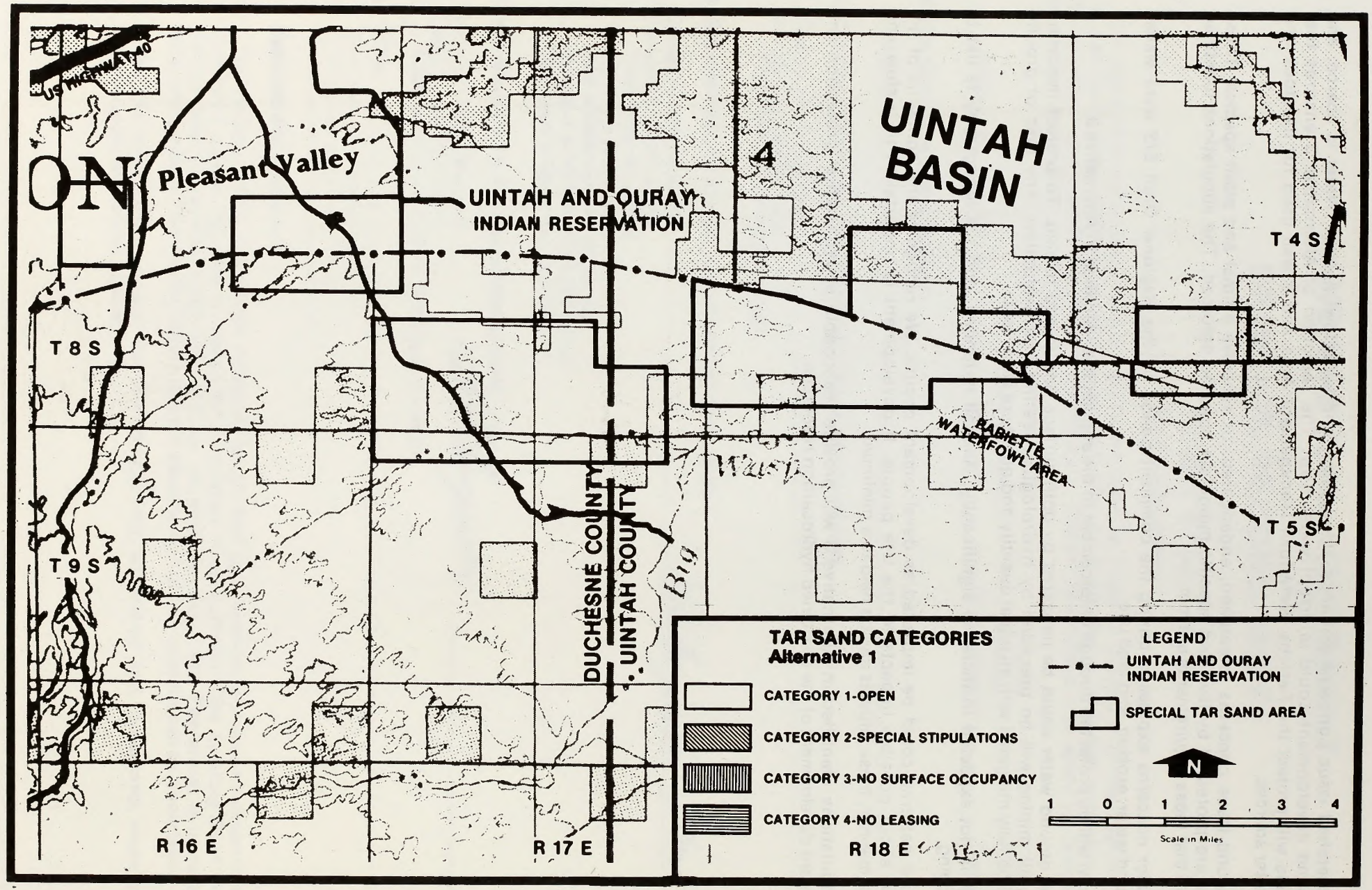


FIGURE 19

ALTERNATIVE 1, PARIETTE STSA

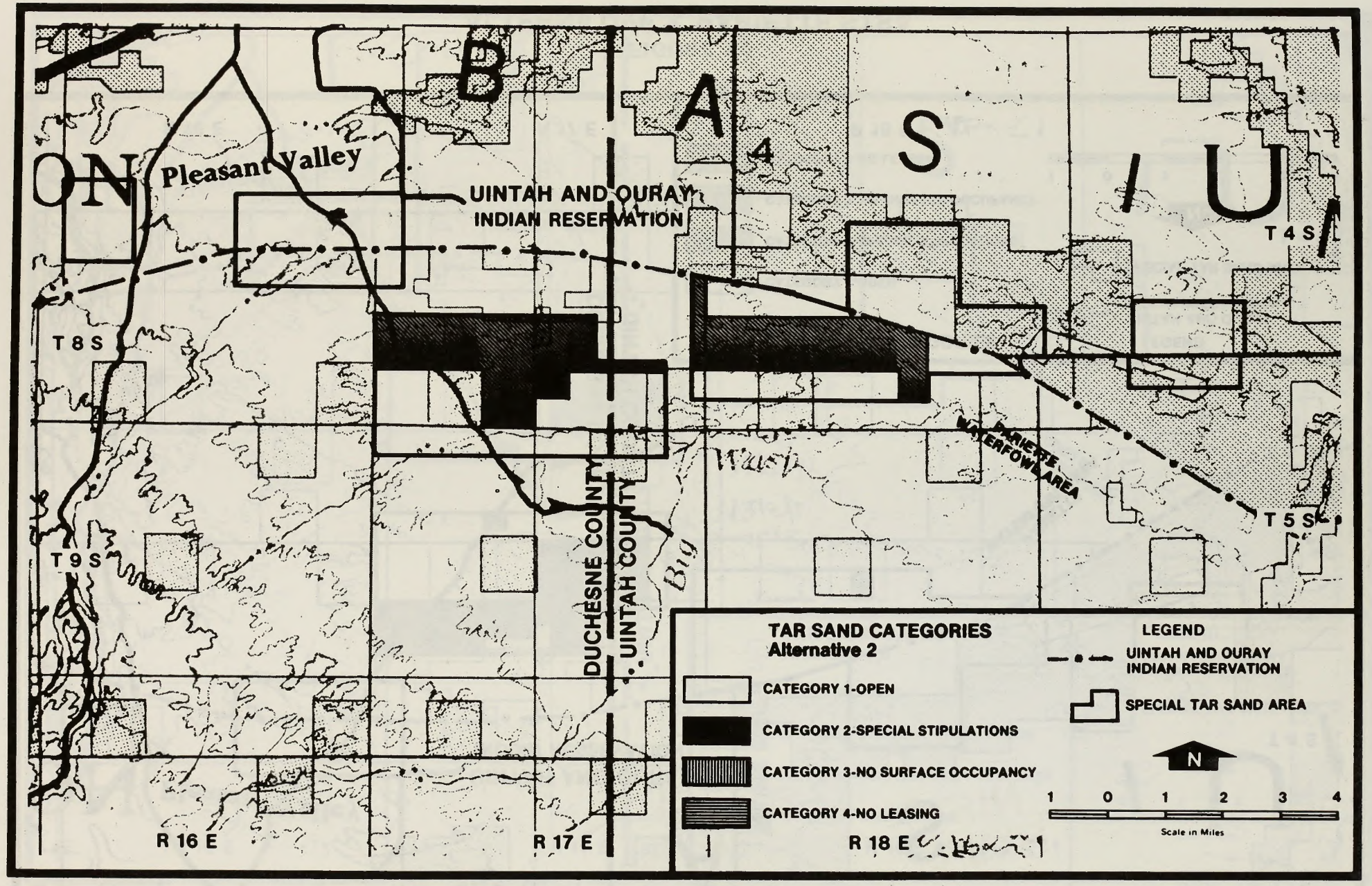


FIGURE 20

ALTERNATIVE 2, PARIETTE STSA

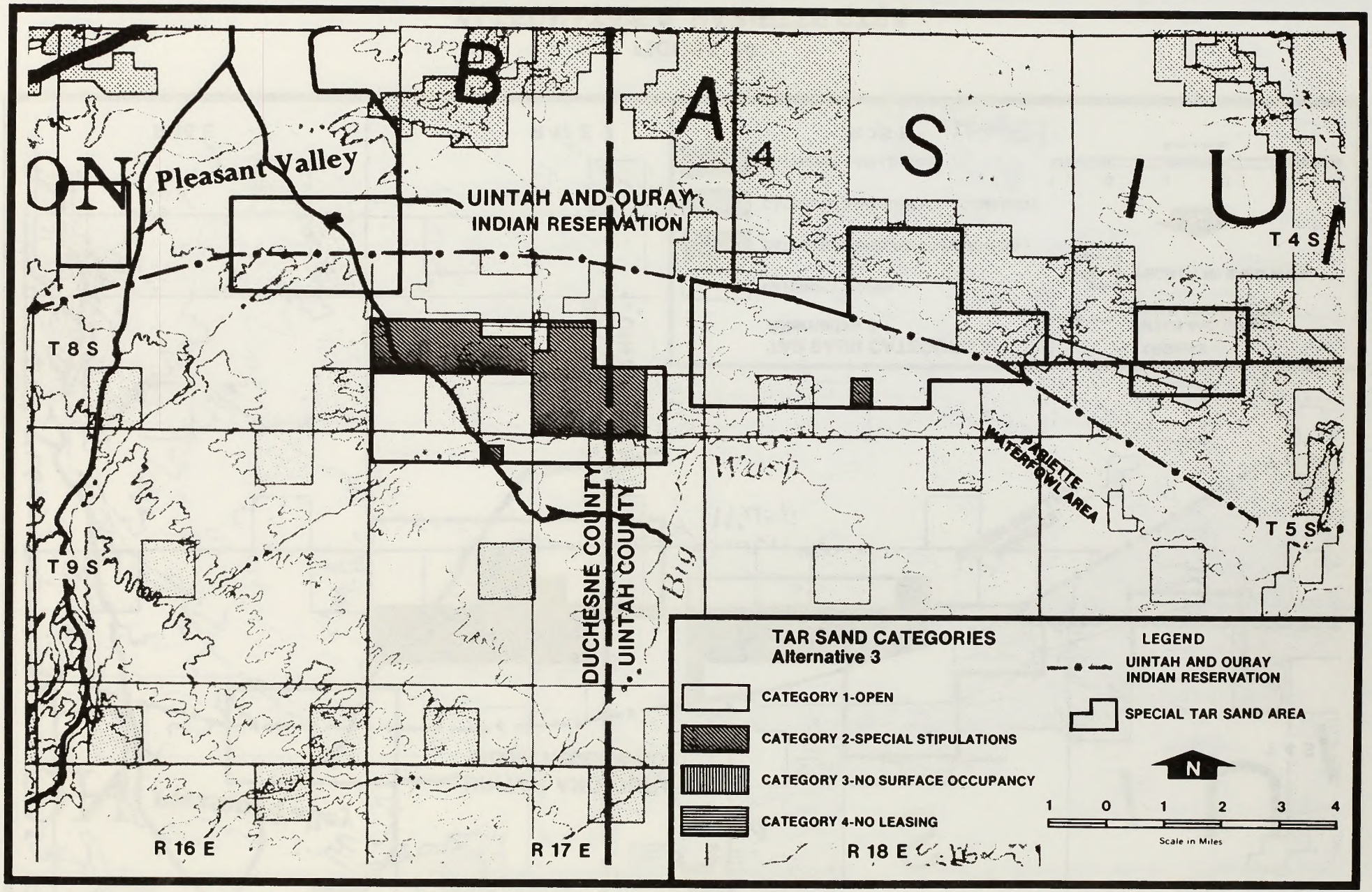


FIGURE 21

ALTERNATIVE 3, PARIETTE STSA

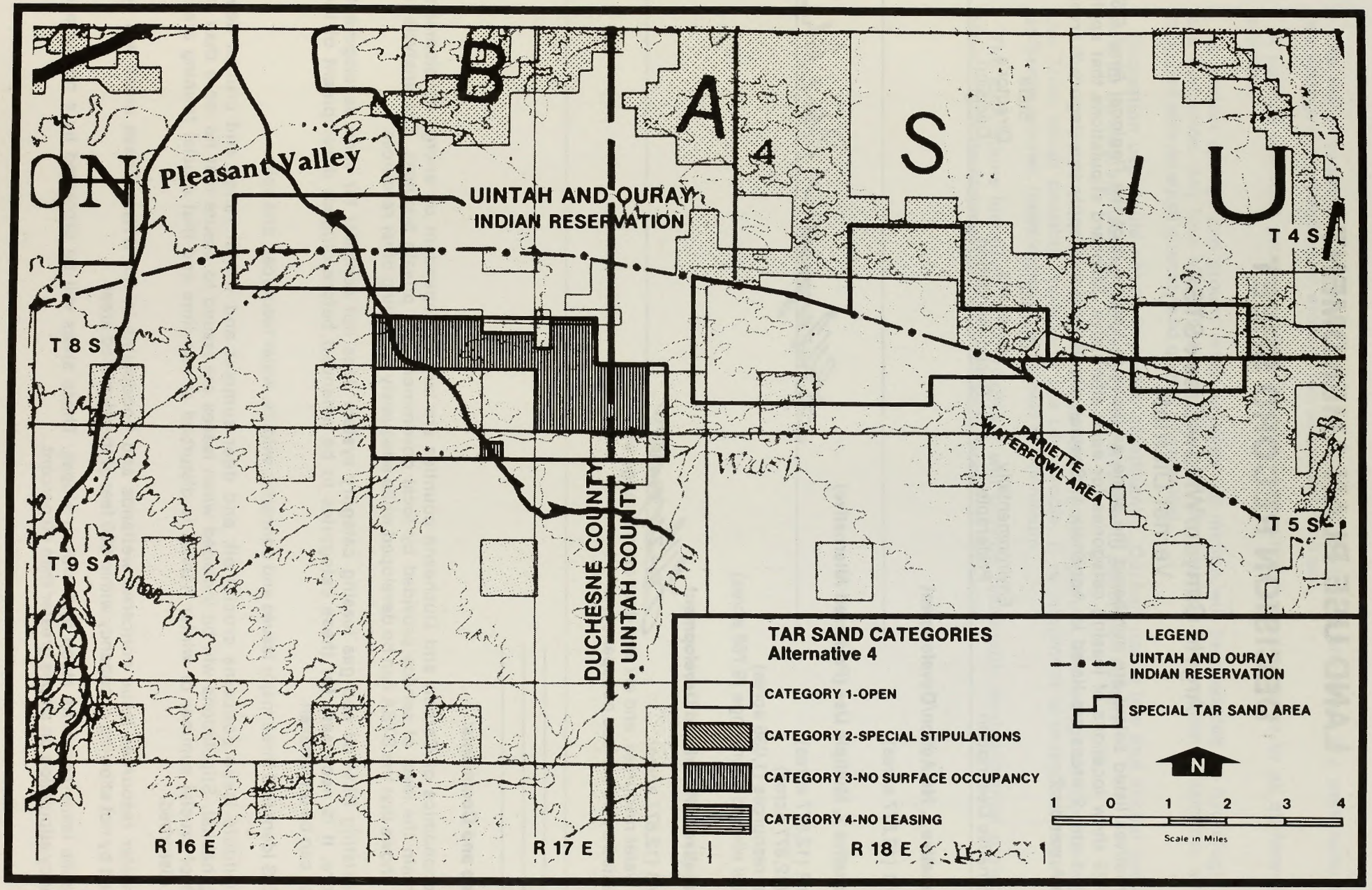


FIGURE 22

ALTERNATIVE 4, PARIETTE STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Argyle Canyon/Willow Creek STSA
Vernal District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 23-25 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. EIS Alternative 1, No Action/Development			
Category 1 (12,877 acres)			
2. EIS Alternative 2, Multiple Use (Preferred Alternative)			
Category 2 (12,877 acres) Soil (12,877 acres) Water resources (1,036 acres) Crucial elk and deer range (9,765 acres)		L K Ferguson	Robert Robinson
3. EIS Alternative 3, Restricted Development			
Category 3 (12,877 acres) Soil, water resources, and elk and deer crucial range would be protected by no surface occupancy.		L K Ferguson	
4. Other			

Rationale and Comments:

The economics of Carbon and Duchesne counties are largely dependent on energy development to maintain the level of service provided by local government and private business. The analysis in the EIS shows that the STSA can be developed while adequately protecting other resources.

The existing BLM oil and gas leasing category system does not consider tar sand development. Therefore, it is necessary for these categories to be amended before diligent development of the resource can be undertaken.

The EIS identified three major issues and concerns: wildlife, water resources, and soils.

The wildlife issue concerns crucial elk and deer summer and winter range and crucial deer fawning habitat. Stipulations will be included when leases are issued to assure that no more than 25 percent of crucial summer or winter habitat is disturbed at one time and that crucial fawning areas are not disturbed.

The water resources issue concerns wetlands and floodplains in the STSA. These areas will be protected by not allowing occupancy within 600 feet of the identified areas.

The soils issue concerns steep and broken slopes. These areas will be protected by a no surface occupancy stipulation on slopes greater than 40 percent.

The major concerns expressed during the comment period on the Draft EIS were cultural resources, springs and ground water, erosion, recreation, and land use.

A cultural resource protection and clearance plan will be required prior to all surface-disturbing activities.

To protect springs and ground water aquifers, all mining will be preceded by hydrological testing and evaluation. Any loss of springs, ground water, or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality of water lost.

Recreation use would not be impacted significantly. Current use is low and similar opportunities exist for hunting, sightseeing, and viewing rock art closer to population centers.

Land use patterns could be impacted as development occurs. We recognize the concerns of the Ute Tribe about possible impacts to the Ute people. If development is undertaken in a slow and deliberate manner, these impacts can be held to a minimum.

The stipulations identified in Alternative 2 will provide reasonable environmental protection and allow diligent development of the combined hydrocarbon resources.

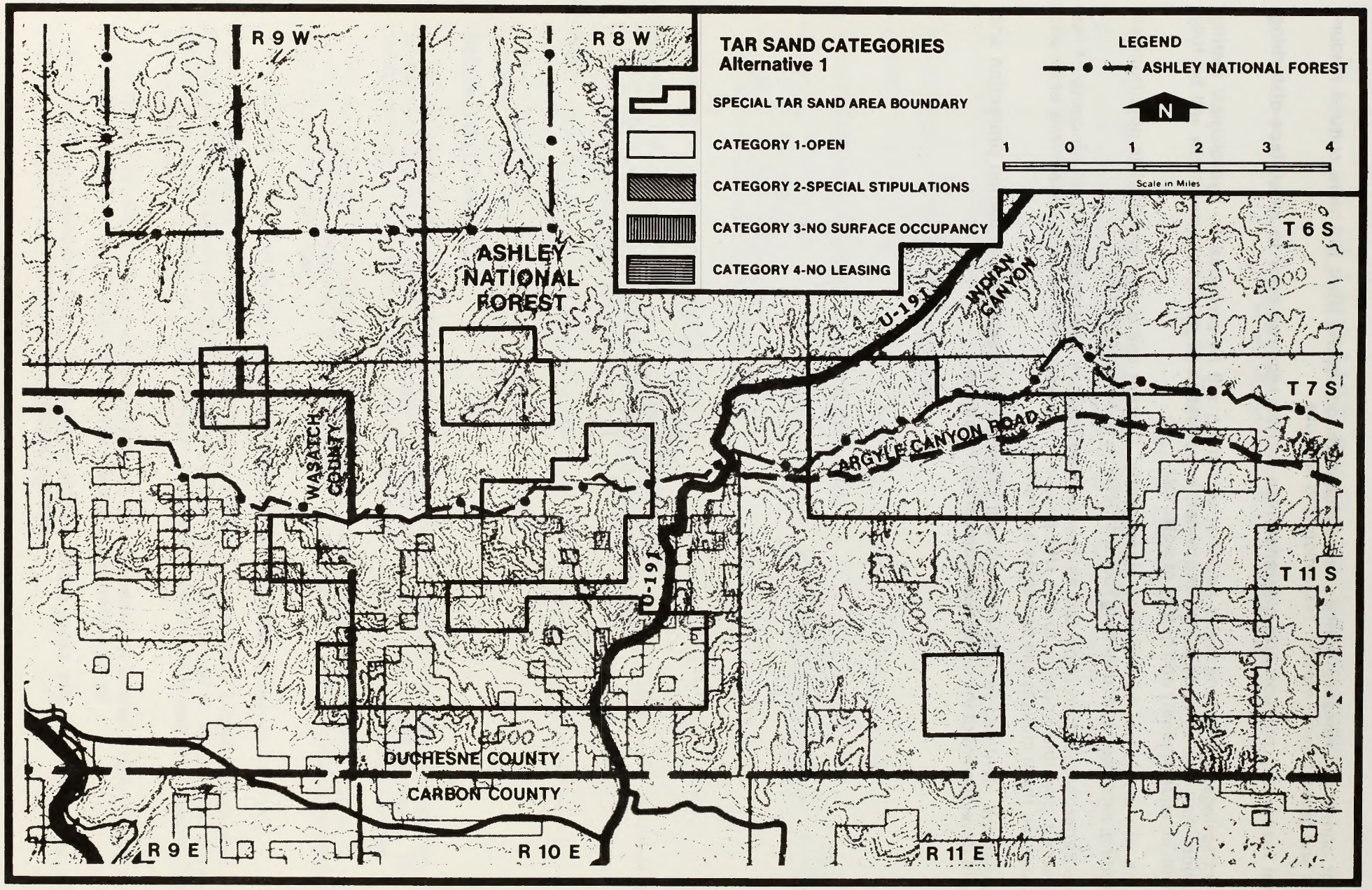


FIGURE 23

ALTERNATIVE 1, ARGYLE CANYON/WILLOW CREEK STSA

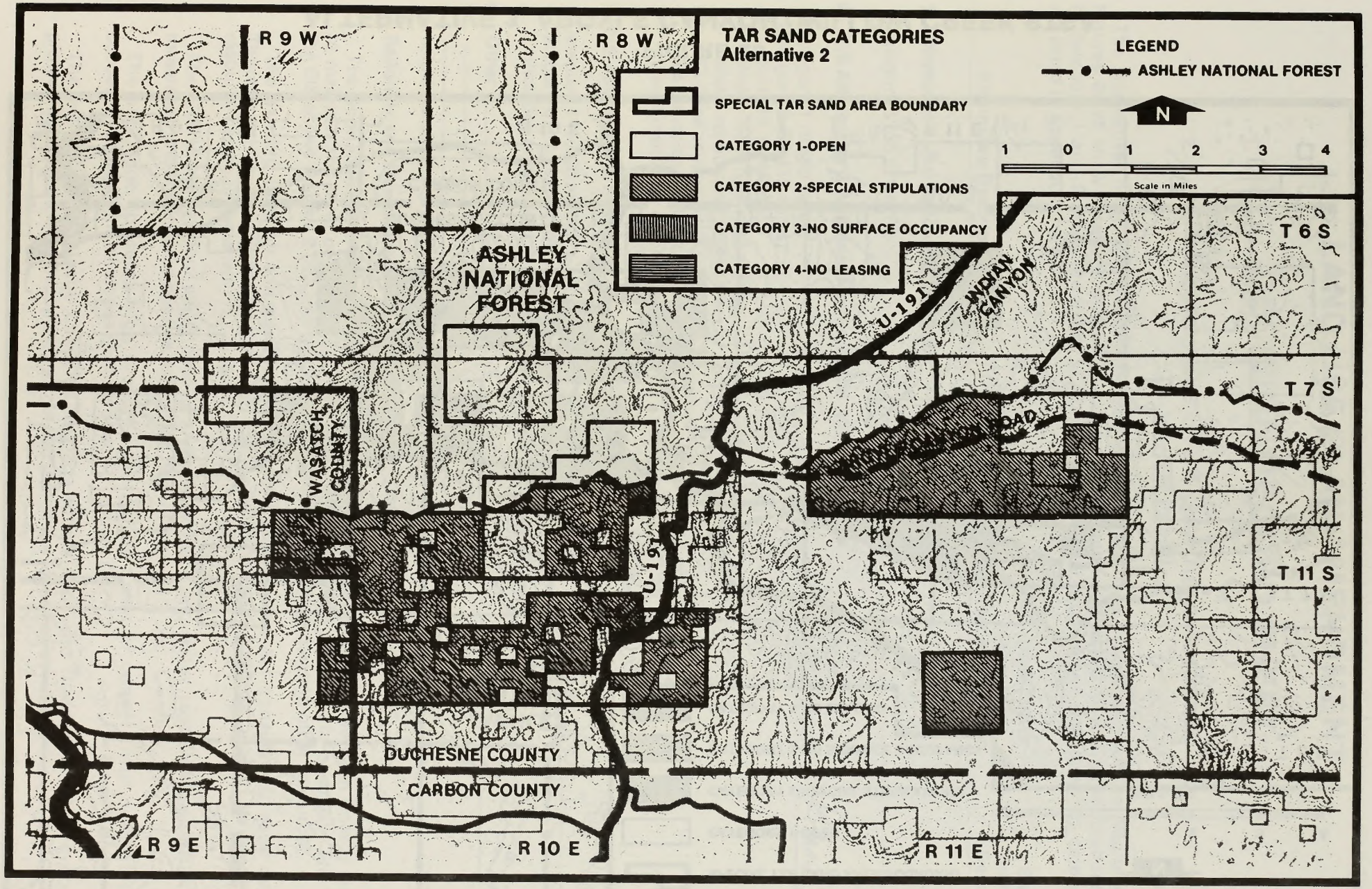


FIGURE 24

ALTERNATIVE 2, ARGYLE CANYON/WILLOW CREEK STSA

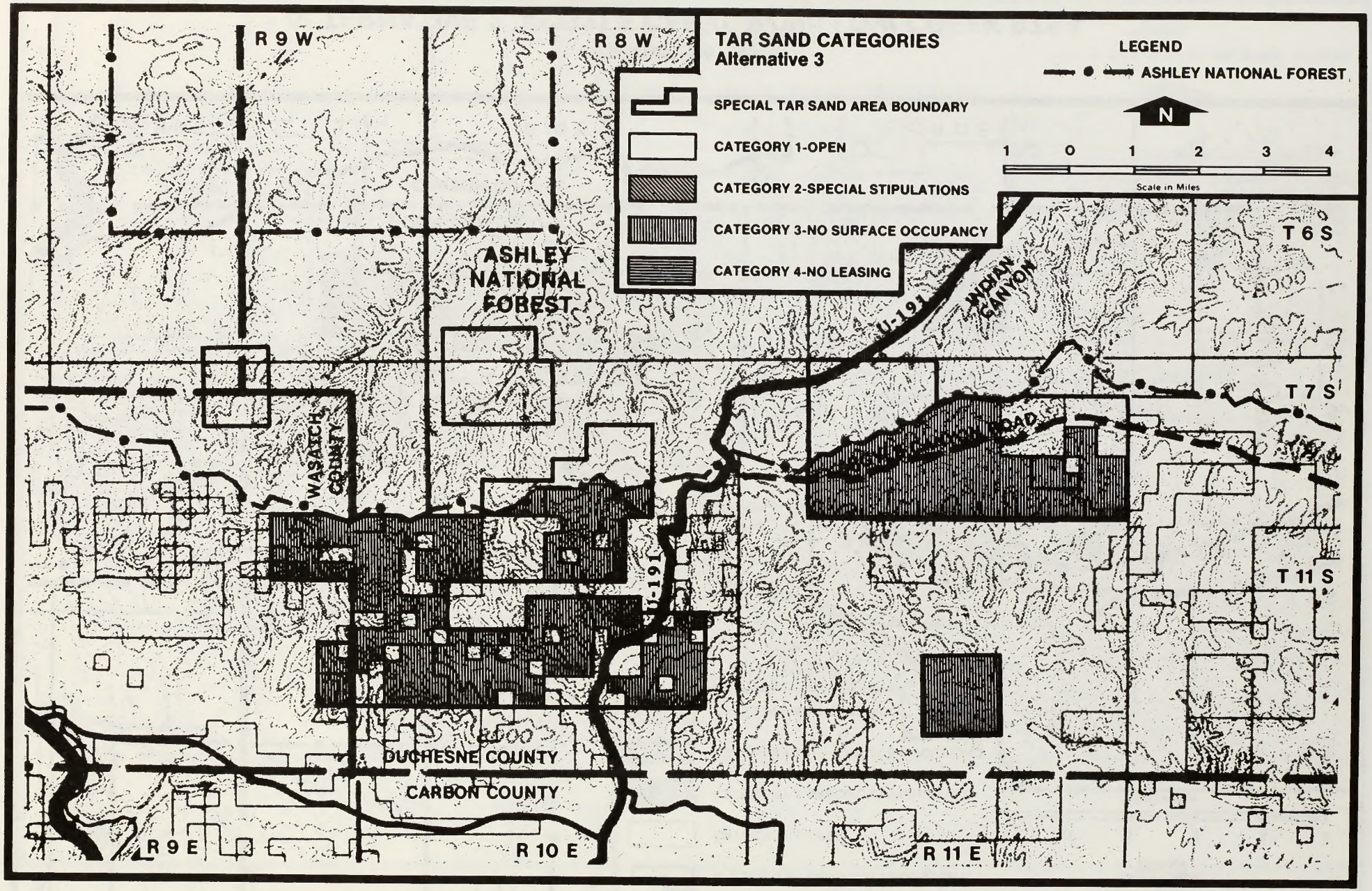


FIGURE 25

ALTERNATIVE 3, ARGYLE CANYON/WILLOW CREEK STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside STSA (Northern Portion)
Vernal District

The alternatives listed below are numbered the same as those in Volume II of the *Regional Final EIS*. Figures 26-28 show locations of leasing categories for each alternative. Standard stipulations that apply to category 1 and 2 areas are listed in Appendix 1. Special stipulations that apply to category 2 areas are listed in Appendix 2.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
1. Alternative 1, No Action/Development			
Category 1 (33,072 acres)			
2. EIS Alternative 2, Multiple Use (Preferred Alternative)			
Category 1 (9,660 acres) Category 2 (23,412 acres) Soil (15,120 acres) Water resources (920 acres) Water resources (1,080 acres) Cultural resources (2,040 acres) T&E species (3,520 acres) Visual resources (11,920 acres)		L H Ferguson	Richard Peterson
3. EIS Alternative 3, Restricted Development			
Category 1 (9,660 acres) Category 3 (23,412 acres) Includes areas listed in Alternative 2, Category 2 above.		L H Ferguson	
4. Other			

Rationale and Comments:

The economics of Duchesne and Carbon counties are largely dependent on energy development to maintain the level of service provided by local government and private business. The analysis in the EIS shows that the STSA can be developed while adequately protecting other resources.

The existing BLM oil and gas leasing category system does not consider tar sand development. Therefore, it is necessary for these categories to be amended before diligent development of the resource can be undertaken.

The EIS identified five major issues and concerns: soils, water resources, cultural resources, threatened and endangered species, and visual resources.

The soil issue concerns high erosion hazard. The areas of concern will be protected by no occupancy stipulations on slopes greather than 40 percent.

The water resource issue concerns damage to wetlands and floodplains. These areas will be protected by not allowing occupancy within 600 feet of the identified problem areas.

The cultural resources issue involves the Nine Mile Archaeological Disrict. The BLM is responsible for determining the presence of cultural resources and specifying mitigation measures.

The threatened and endangered species issue concerns the Uinta Basin hookless cactus. This species is protected by law, and specific mitigation must be enforced. The stipulations identified in Alternative 2 would ensure that these requirements are met.

The visual resources issue concerns areas of high visual sensitivity. The locations of long-term permanent facilities will conform to natural surroundings and color tones.

The major concerns expressed during the comment period on the *Regional Draft EIS* were cultural resources, water resources, and land use.

Cultural resources will be protected as described under major issues above.

To protect water resources, all mining will be preceded by hydrological testing and evaluation. Any loss of springs or ground water or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality of water lost.

Land use patterns could be impacted as development occurs. We recognize the concerns of the Ute Tribe about possible impacts to the Ute people. If development is undertaken in a slow and deliberate manner, these impacts can be held to a minimum.

The stipulations identified in Alternative 2 will provide reasonable environmental protection and allow diligent development of the combined hydrocarbon resources.

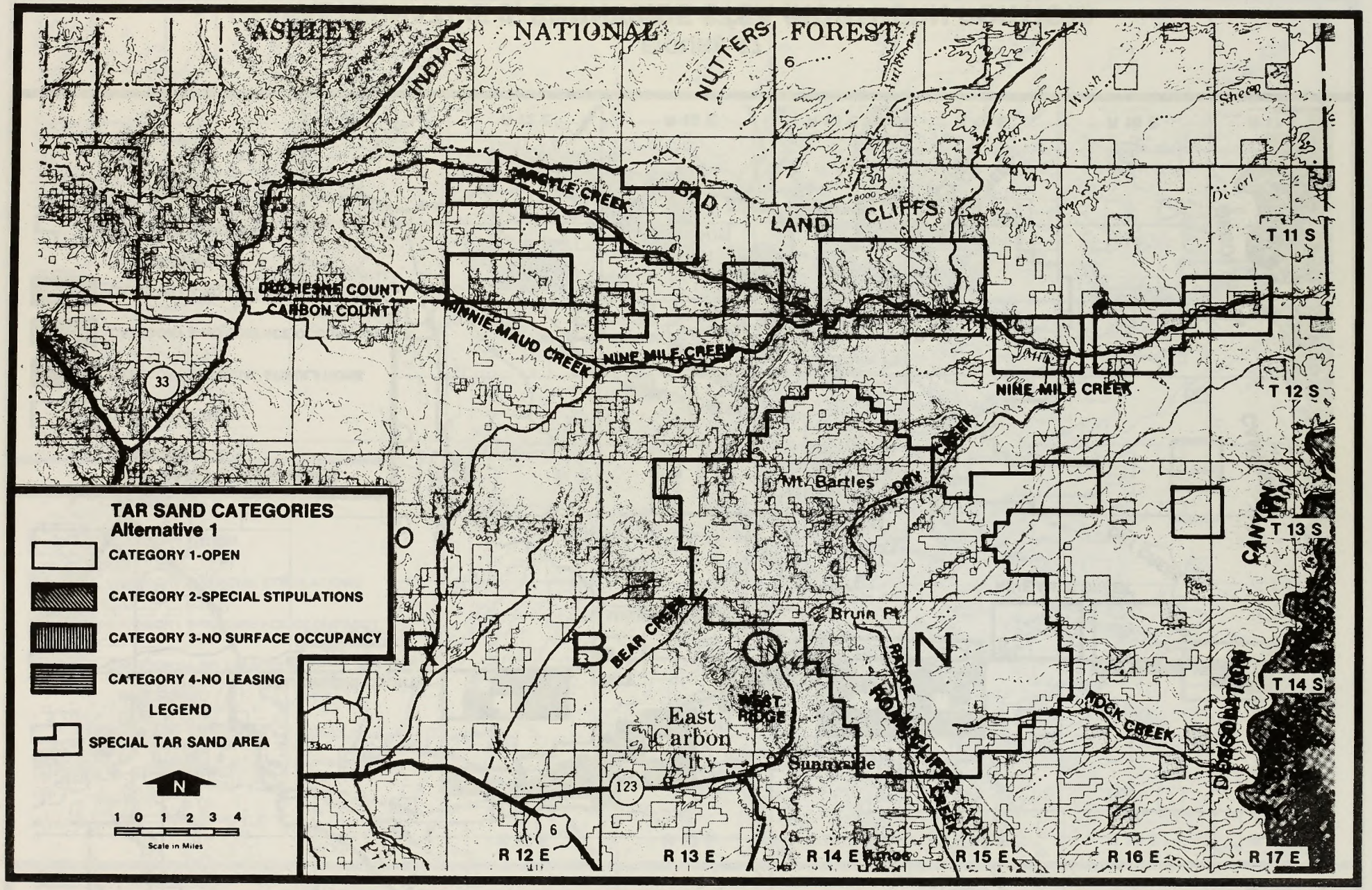


FIGURE 26

ALTERNATIVE 1, SUNNYSIDE STSA (NORTHERN PORTION)

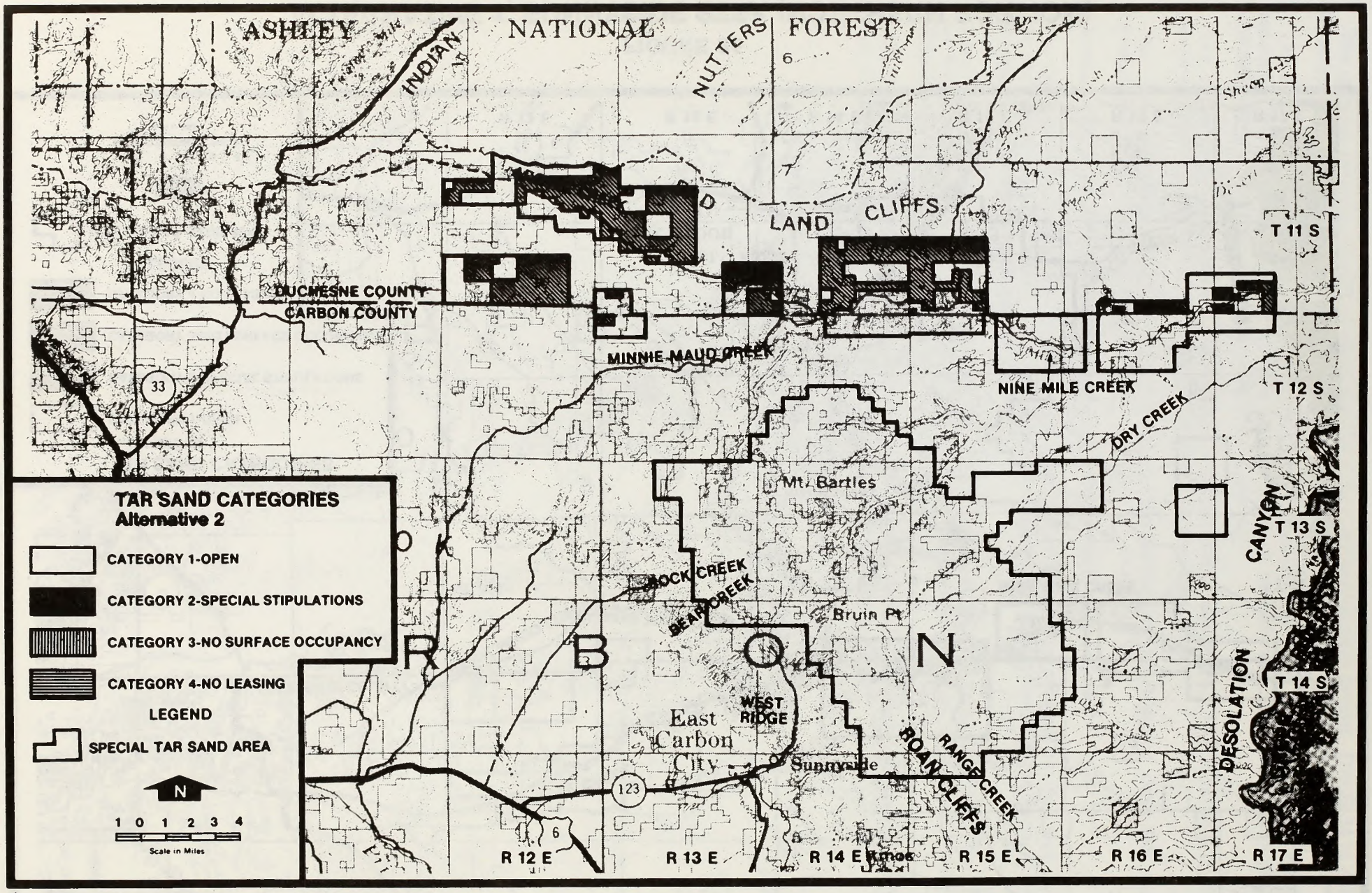


FIGURE 27

ALTERNATIVE 2, SUNNYSIDE STSA (NORTHERN PORTION)

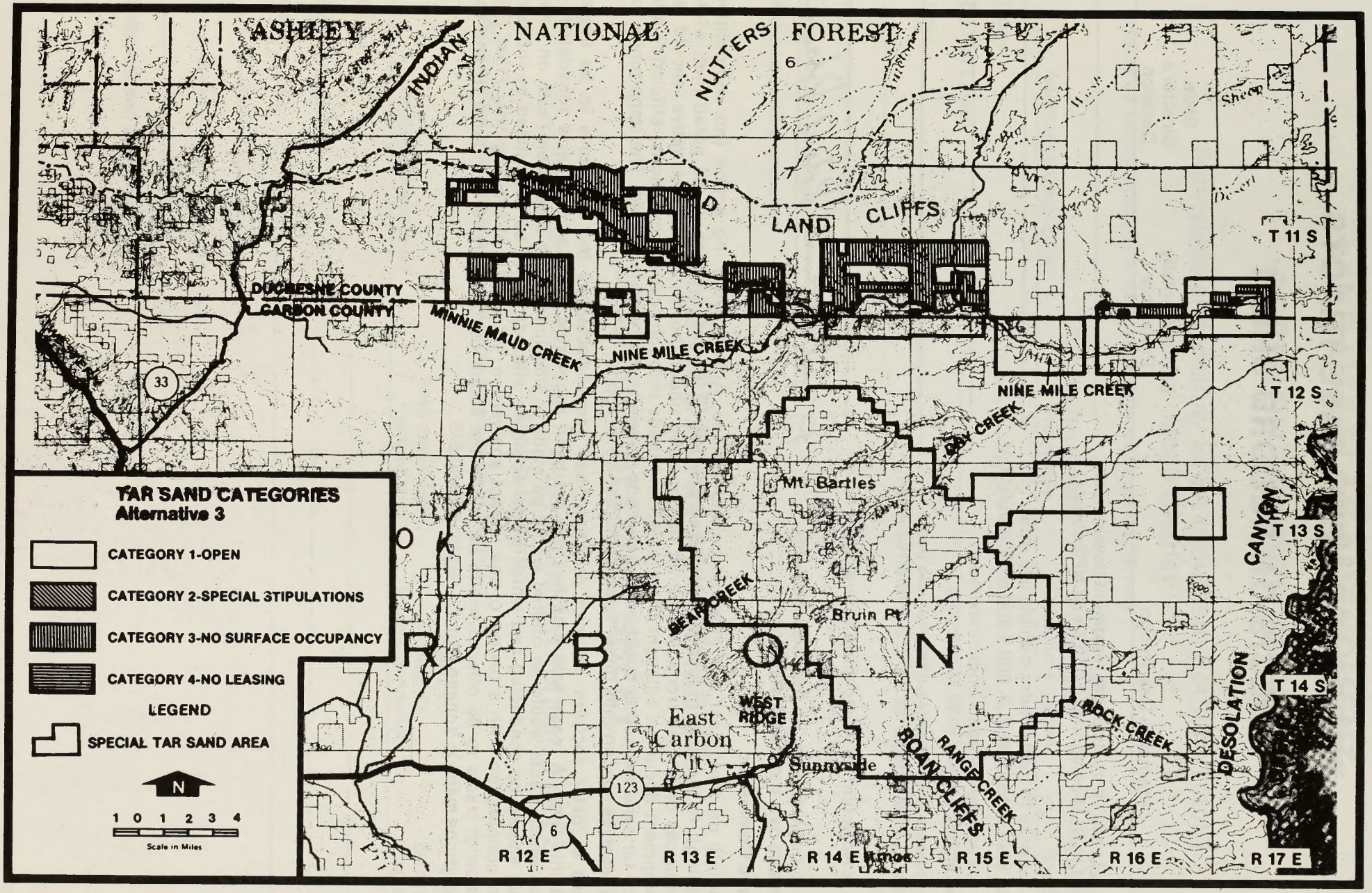


FIGURE 28

ALTERNATIVE 3, SUNNYSIDE STSA (NORTHERN PORTION)

PROPOSED NEW LEASE TRACTS

DECISION RECORD SHEET

Alternative Description	Environmentally Preferable	State Director's Decision
Alternative 1: Lease 18 tracts under maximum development, subject to BLM categories 1 and 4 and NPS stipulations.		
Alternative 2: Lease 18 tracts under multiple use, subject to BLM categories 2, 3, and 4 and NPS stipulations.		
Alternative 3: Lease seven tracts under maximum development, subject to BLM category 1.		
Alternative 4: Lease seven tracts under multiple use, subject to BLM categories 2 and 3 (Preferred Alternative).		
Alternative 5: No action (no competitive federal leasing).		
Alternative 6: Defer decision on tract selection until lease sale date has been determined.	Roland Robinson	Roland Robinson

Rationale and Comments:

Based solely on biological and physical considerations, Alternative 5, no action (no competitive federal leasing), is the environmentally preferred alternative. However, it should be noted that, while natural resources on the 18 tracts would not be impacted under the No Action Alternative, should tar sand development occur on adjacent State or private lands through lease conversions, efficiency and flexibility of tar sand extraction could be reduced and development costs increased. The opportunity for developing reserves not currently under lease would also be foregone.

Alternative 6 (defer decision on tract selection) has been selected as the alternative to be implemented at this time. A lease sale date has not yet been scheduled. If or when one is scheduled, a decision on which tracts would be offered would be made at that time. Such a decision (both on when a lease sale should be conducted and which tracts would be offered) would be determined by industry demand in conjunction with a review of the impact analysis in Volume III of *the Regional Final EIS.* The selection of tracts to be offered would be within the scope of the analysis in Volume III and the land use decisions made in Volume II of the *Regional Final EIS.*

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 1
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 2
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

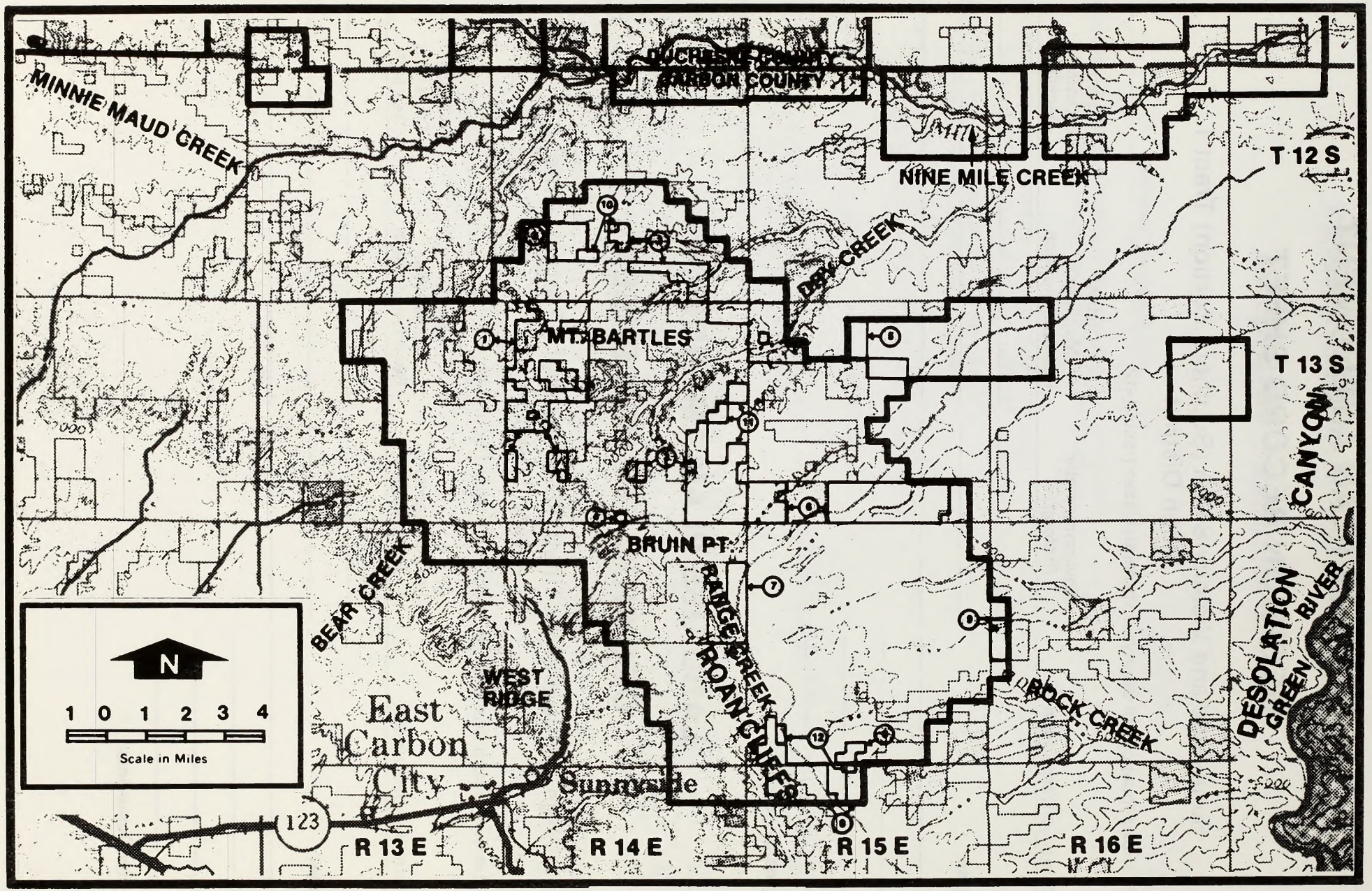


FIGURE 29
SUNNYSIDE POTENTIAL LEASE TRACTS

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 3
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 4
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 5
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 6
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 7
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 8
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 9
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 10
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 11
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other _____			
_____			
_____			
_____			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Tract 12
Moab District

Figure 29 shows locations of Sunnyside potential lease tracts 1-12.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other _____			
_____			
_____			
_____			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Sunnyside and Vicinity STSA (Southern Portion) Black Dragon Tract
Moab District

Figure 30 shows the location of the Black Dragon potential lease tract.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Pariette Tract 1
Vernal District

Figure 31 shows locations of Pariette potential lease tracts 1-3.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

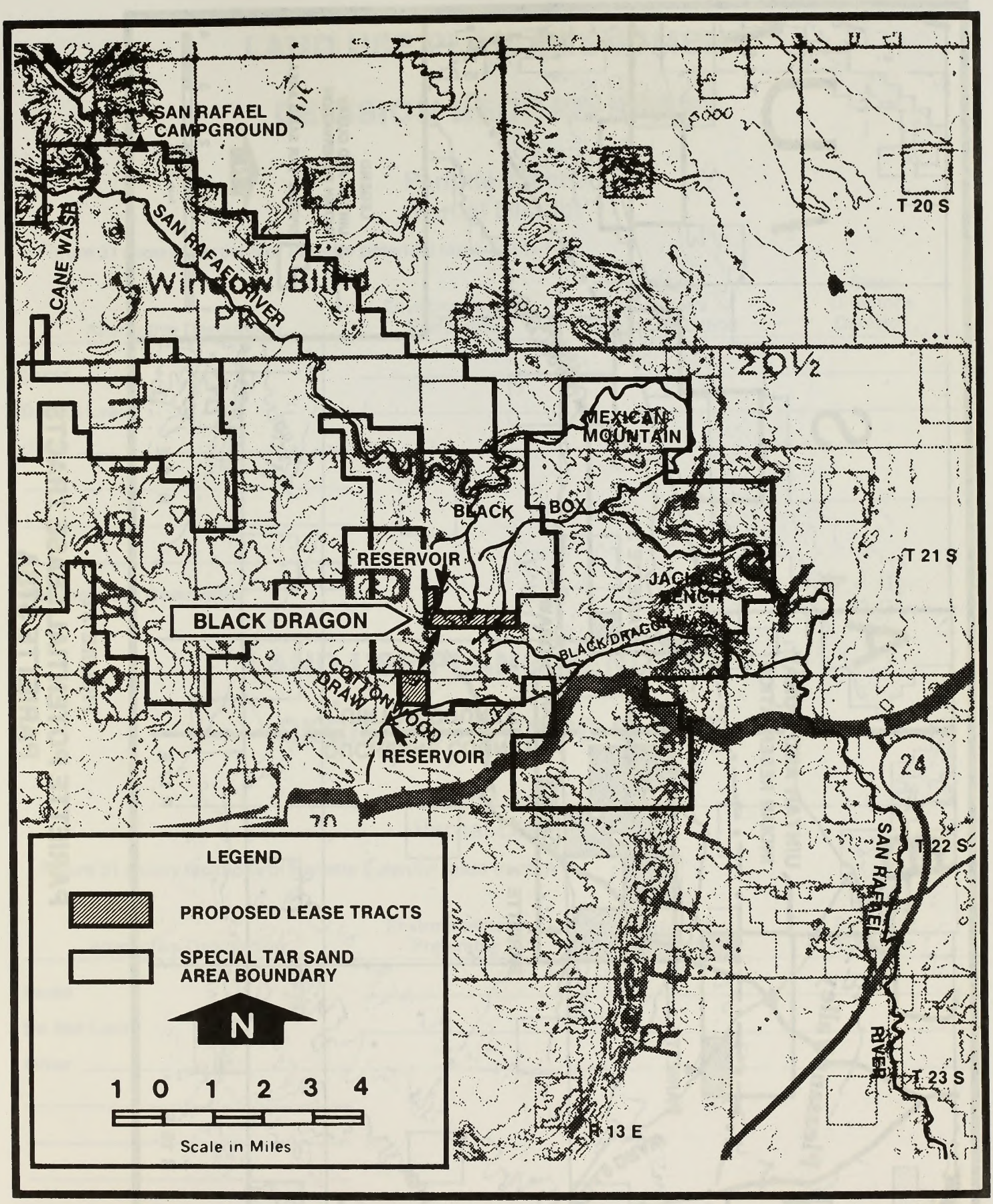


FIGURE 30

BLACK DRAGON POTENTIAL LEASE TRACT
SAN RAFAEL SWELL STSA

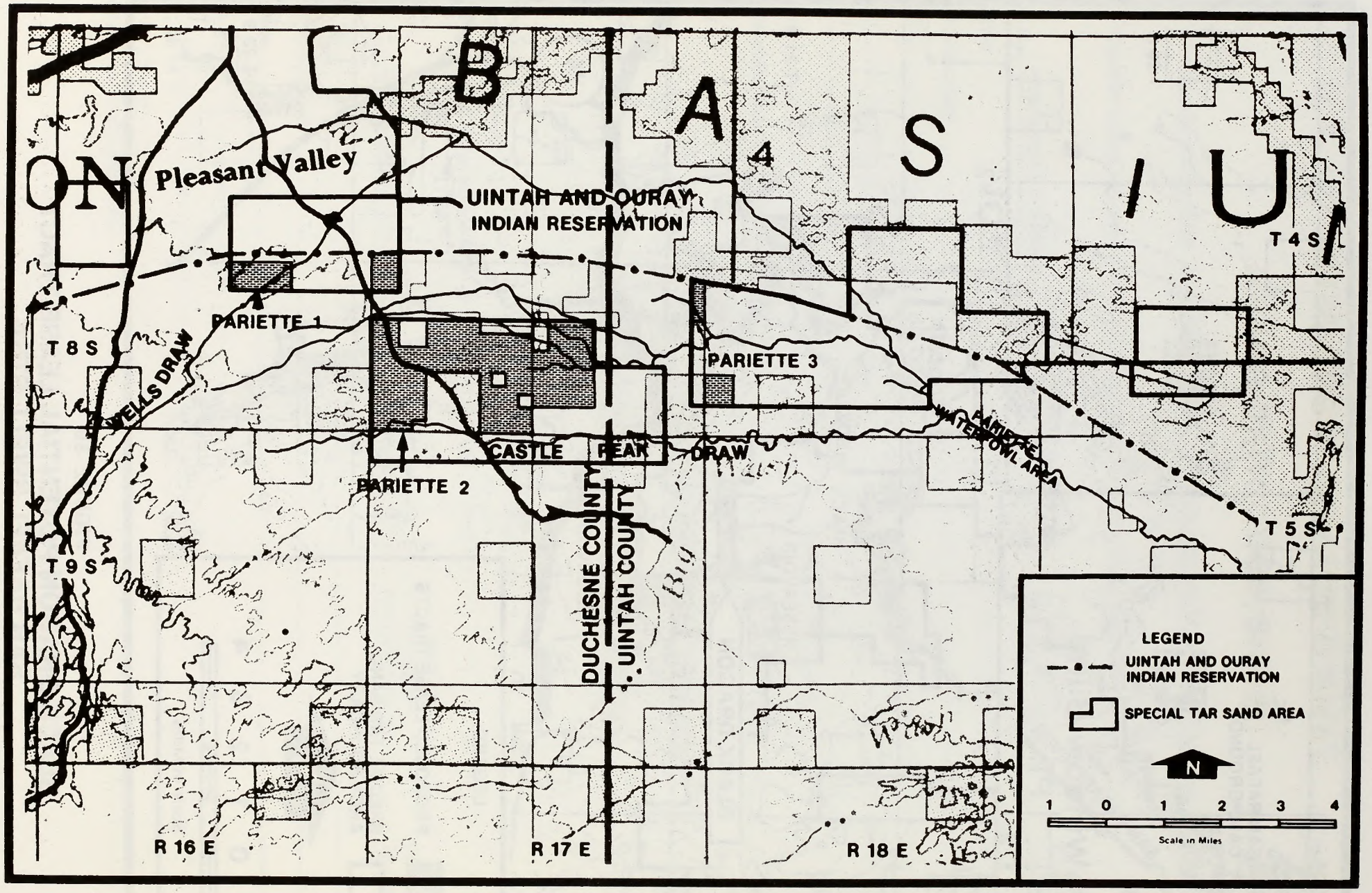


FIGURE 31

PARIETTE POTENTIAL LEASE TRACTS
PARIETTE STSA

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Pariette Tract 2
Vernal District

Figure 31 shows locations of Pariette potential lease tracts 1-3.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Pariette Tract 3
Vernal District

Figure 31 shows locations of Pariette potential lease tracts 1-3.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Gordon Corral Tract
Richfield District

Figure 32 shows locations of Gordon Corral and Flint Flat potential lease tracts. Appendix 3 lists stipulations which would be attached to Glen Canyon NRA tracts.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

LAND USE PLAN AMENDMENT

DECISION RECORD SHEET

Flint Flat Tract
Richfield District

Figure 32 shows locations of Gordon Corral and Flint Flat potential lease tracts. Appendix 3 lists stipulations which would be attached to Glen Canyon NRA tracts.

Alternative Description	Environmentally Preferable	District Manager's Recommendation	State Director's Decision
Lease			
Do Not Lease			
Other			

Rationale and Comments:

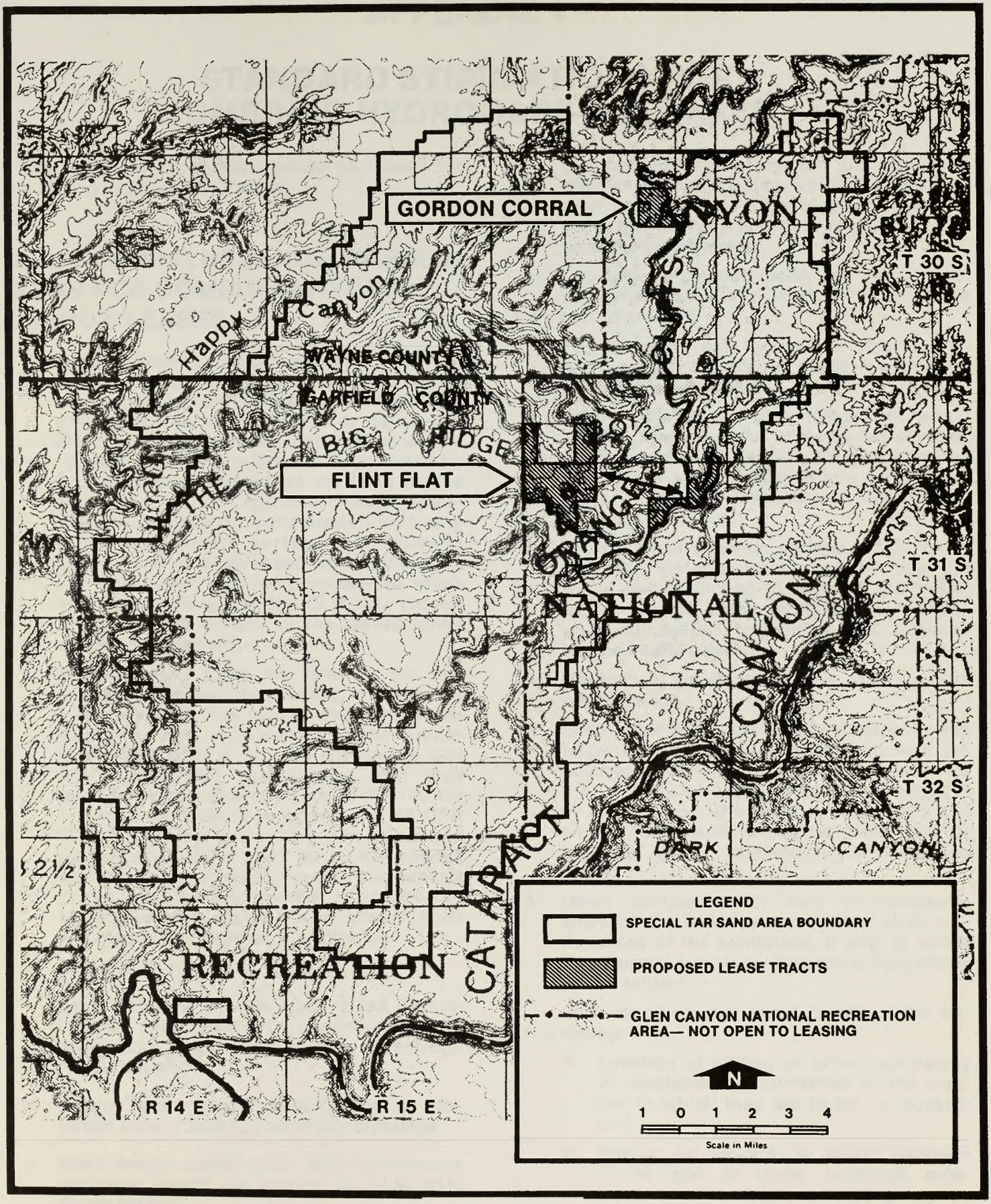
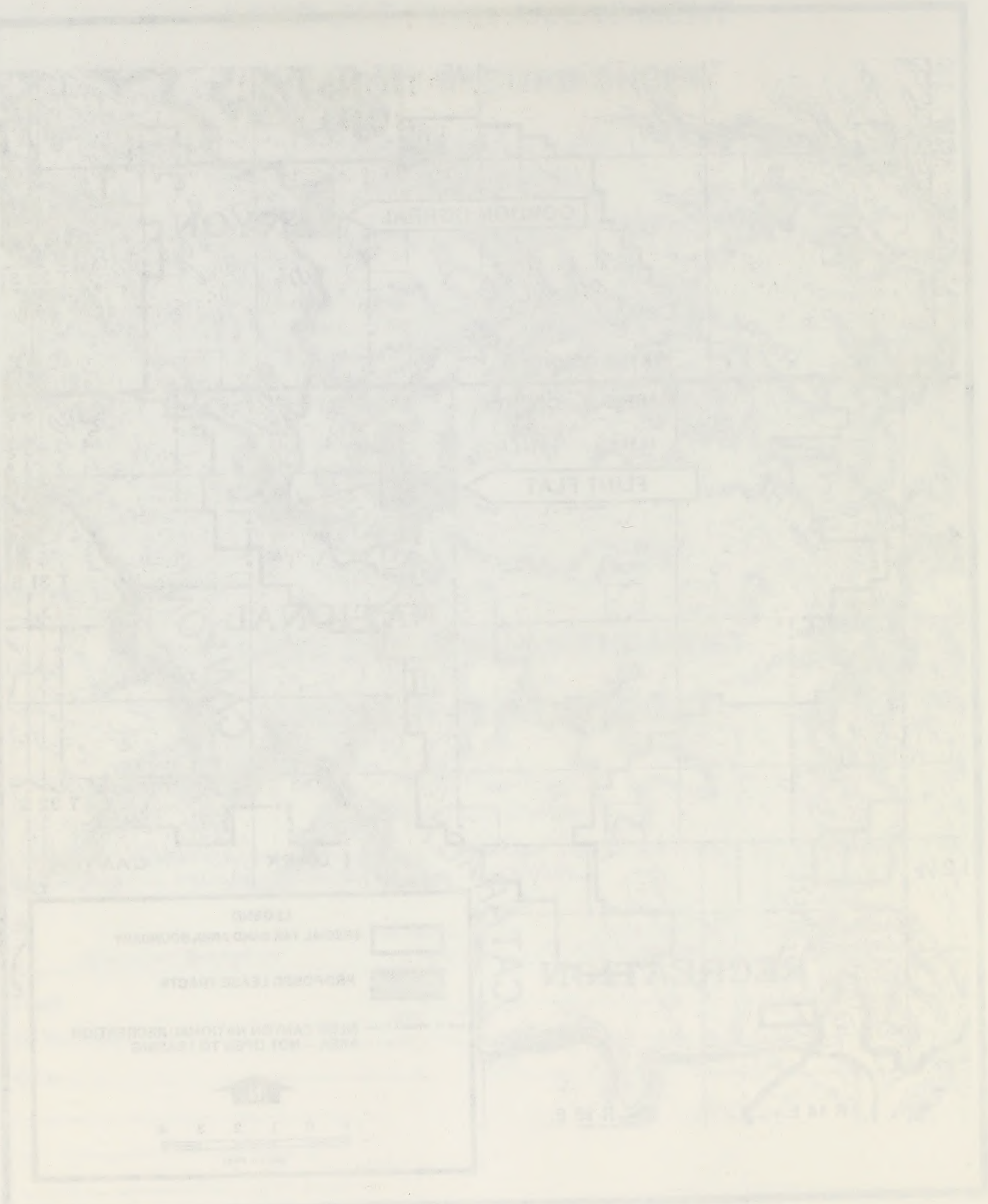


FIGURE 32

TAR SAND TRIANGLE STSA



APPENDIX 1

STANDARD STIPULATIONS FOR COMBINED HYDROCARBON LEASES

The following stipulations would be issued for any CHL in category 1 or 2 areas:

SURFACE DISTURBANCE STIPULATIONS FOR COMBINED HYDROCARBON LEASES

1. Notwithstanding any provisions of this lease to the contrary, any drilling, construction, or other operation on the leased lands that will disturb the surface thereof or otherwise affect the environment, hereinafter called "surface-disturbing operation," conducted by lessee shall be subject, as set forth in this stipulation, to prior approval of such operation by the BLM in consultation with any other appropriate surface management agency and to such reasonable conditions not inconsistent with the purposes for which this lease is issued, as the BLM may require to protect the surface of the leased lands and the environment.
2. Prior to entry upon the land or the disturbance thereof for mining, drilling, or other purposes, the lessee shall submit for approval a plan of operations to the authorized officer of BLM and the appropriate surface management agency. The plan shall meet the requirements of 43 CFR 3160 for drilling and in-situ operations and 43 CFR 3570 for mining operations. The submitted plan of operations must be in compliance with applicable operation orders and notices to lessees and must contain, in addition to all requirements stated above, the methods and actions proposed for the following:

- Stripping and saving of topsoil.
- Reclamation of the disturbed areas, including, but not limited to, recontouring and revegetation with native species or ecological equivalents.
- Erosion and control measures on all disturbed areas, roads and waterway crossings.
- Road design, construction, and maintenance standards would be subject to BLM 9113 Roads Manual.
- Cultural resource protection and clearance and/or protection plan would be required prior to all surface-disturbing activities. All costs of inventory and data recovery would be borne by the lessee.
- Livestock protection such as fencing or otherwise excluding livestock from active mining areas.
- Fugitive dust and emissions control with fugitive dust abatement being required on all major haulage roads.
- Wildife protection and mitigation would include threatened or endangered species. Clearance would have to be given by the appropriate agency prior to any surface disturbance, and all transmission lines would be raptor-proof.
- Protection of streams, springs, water wells, and other water sources would include, but would not be limited to, streams and drainage crossings being protected by appropriate stipulations, including a U.S. Corps of Engineers 404 permit.
- Methods of retaining all mine drainage and runoff on-site.
- Environmental analysis will be made by the authorized officer in consultation with the appropriate surface management agency for the purpose of assuring proper protection of the surface, the natural resources, the environment, existing improvements, and for assuring timely reclamation of disturbed lands.

3. Upon completion of said environmental analysis, the BLM, as appropriate, shall notify lessee of the conditions, if any, to which the proposed surface-disturbing operations will be subject.

   Said condition may relate to any of the following:

   A. Location of drilling or other exploratory or developmental operations or the manner in which they are to be conducted; and

   B. Manner or location in which improvements such as roads, buildings, pipelines, or other improvements are to be constructed.

PROTECTION OF ENDANGERED OR THREATENED SPECIES

The Federal surface management agency is responsible for assuming that area to be disturbed is examined prior to undertaking any surface-disturbing activities on lands covered by this lease to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened, or their habitats. If the findings of this examination determine that the operation may detrimentally affect an endangered or threatened species, some restrictions to the operator's plans or even disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervison of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects of the proposed action on endangered or threatened species or their habitat.

PROTECTION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

The Federal surface management agency is responsible for determining the presence of cultural resources and specifying mitigation measures required to protect them. Prior to undertaking any surface-disturbing activity on the lands covered by this lease, the lessee/operator, unless notified to the contrary by the authorized officer of the surface management agency, shall:

1. Engage the services of a qualified cultural resource specialist acceptable to the surface management agency to conduct an intensive inventory for evidence of cultural resource values;
2. Submit a report acceptable to the authorized officer of the surface management agency; and
3. Implement such mitigation measures as required by the authorized officer of the surface management agency to preserve or avoid destruction of inventoried cultural resource values. Mitigation may include relocation of proposed facilities, testing, and salvage or other protective measures deemed necessary. All costs of the inventory and mitigation shall be borne by the lessee/operator and all data and materials salvaged shall remain under the jurisdiction of the U.S. Government.

The lessee/operator shall immediately bring to the attention of the authorized officer of the surface management agency any cultural resources, paleontological, and other objects of scientific interest discovered as a result of surface operations under this lease and shall leave such discoveries intact until directed to proceed by the Bureau of Land Management (BLM).

WILDERNESS PROTECTION STIPULATIONS

By accepting this lease, the lessee acknowledges that the following described lands are being inventoried or evaluated for their wilderness potential by BLM under Section 603 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2743 (43 USC Sec. 1782), and that exploration or production activities which are not in conformity with Section 603 may never be permitted. Expenditures in leases on which exploration drilling or production are not allowed will create no additional rights in the lease, and such leases will expire in accordance with law.

Activities will be permitted under the lease so long as the BLM determines they will not impair wilderness suitability. This will be the case either until the BLM wilderness inventory process has resulted in the final wilderness inventory decision that an area lacks wilderness characteristics, or in the case of a wilderness study area until Congress has decided not to designate the lands included within this lease as wilderness. Activities will be considered nonimpairing if the BLM determines that they meet each of the following three criteria:

1. It is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirements of paragraphs 2 and 3 below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time if necessary to management of the area as wilderness.

2. Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area (or inventory unit) as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the activity. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the complete recontouring of all cuts and fills to blend with the natural topography, the replacement of topsoil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation schedule will be based on conservative assumptions with regard to growing conditions, so as to ensure that the reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President. ("Substantially unnoticeable" is defined in Appendix F of the *Interim Management Policy and Guidelines for Lands Under Wilderness Review*.)

3. When the activity is terminated and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in Section 2(c) of the *Wilderness Act*, including naturalness, outstanding opportunities for solitude, or for primitive and unconfined recreation, and ecological, geological, or other features of scientific, educational, scenic, or historical value. If all or any part of the area included within the leasehold estate is formally designated by Congress as wilderness, exploration and development operations taking place or to take place on that part of the lease will remain subject to the requirements of this stipulation, except as modified by the Act of Congress designating the land as wilderness. If Congress does not specify in such act how existing leases like this one will be managed, then the provisions of the *Wilderness Act of 1964* will apply, as implemented by rules and regulations promulgated by the Department of the Interior.

PUBLIC WATER RESERVE 107 AND LEGAL WATER SOURCE STIPULATIONS

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation as specified by the authorized officer of BLM. Any loss of springs, ground water, or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality of water lost. Such mitigation must be approved by the authorized officer of BLM

APPENDIX 2

SPECIAL STIPULATIONS FOR COMBINED HYDROCARBON LEASES

The following stipulations would be issued for CHLs in the category 2 areas listed below.

MOAB DISTRICT

San Rafael Swell STSA

ALTERNATIVES 1 AND 2

No special stipulations.

ALTERNATIVES 3 AND 4

San Rafael River (3,720 acres)

No occupancy or other surface disturbance will be allowed within 0.25 mile of the channel centerline. This distance may be modified when specifically approved in writing by BLM.

Muddy Creek (2,943 acres)

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ methods only.

ALTERNATIVE 4

Temple Mountain/Goblin Valley Recreation Management Area (13,757 acres)

No access or work trail or road, earth cut or fill, structure or other improvement, or mine area will be permitted if it can be viewed from the Temple Mountain county road or Goblin Valley State Park.

Sunnyside and Vicinity STSA (Southern Portion)

ALTERNATIVE 1

Desolation and Gray Canyons (1,420 acres)

Oil and gas leasing are suspended along a 1-mile-wide river corridor.

Applications for permits to drill (APDs) within sight and sound of the Green River will not be approved.

No access or work trail or earth cut or fill, structure, or other improvement, other than an active drilling rig, will be permitted if it can be viewed from the Green River.

ALTERNATIVE 2

Sage Grouse Strutting and Nesting Grounds (1,758 acres)

Oil and gas resources may be extracted by conventional methods only; no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

To protect nesting sage grouse, exploration, drilling, and other development activity will be allowed only from June 15 to March 31. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Range Creek Watershed (1,442 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

Oil and gas resources may be extracted by conventional methods only; no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

Jack Creek Watershed (946 acres)

Oil and gas resources may be extracted by conventional methods only, no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

No access or work trail or road, earth cut or fill, structure or other improvement, other than an active drilling rig, will be permitted if it can be viewed from the Green River.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

Nine Mile Canyon (11,697 acres)

Oil and gas resources may be extracted by conventional methods only, no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

Roan Cliffs (3,840 acres)

Oil and gas resources may be extracted by conventional methods only, no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

Elk and Deer Summer Range (18,045 acres)

Oil and gas resources may be extracted by conventional methods only; no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

Deer Winter Range (11,615 acres)

Oil and gas resources may be extracted by conventional methods only, no in-situ or mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydro-carbons and underground mining methods may be employed only upon approval by the authorized officer.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

ALTERNATIVE 3

Sunnyside Water Supply Reserve (2,400 acres)

The lands under this lease in (legal subdivision) have been formally designated as a municipal water supply reserve for the Town of Sunnyside, Utah. Any surface-disturbing activity shall require approval of the authorized officer of the BLM with concurrence of the Town of Sunnyside prior to entry upon the surface estate. Any approved exploration, mining, or other surface disturbance shall be subject to complete containment of any runoff water, mine waste, sediment, or any other potential contaminant. Discharge of any type from any disturbed site will not be allowed.

Sage Grouse Strutting and Nesting Grounds (1,758 acres)

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ or underground mining methods only.

To protect nesting sage grouse, exploration, drilling, and other development activity will be allowed only from June 16 to March 31. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Range Creek Watershed (1,442 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission from the authorized officer of BLM.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of BLM before additional areas can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation as specified by the authorized officer of BLM. Any loss of springs or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality, as specified by the authorized officer of BLM.

Jack Creek Watershed (866 acres)

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of the BLM before additional area can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

No access or work trail or road, earth cut or fill, structure or other improvement, other than an active drilling rig, will be permitted if it can be viewed from the Green River.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

To protect deer winter range, exploration, drilling, and other development activity will be allowed only from May 16 to October 31. This limitation does not

apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Nine Mile Canyon (11,697)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of BLM before additional area can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

To protect deer winter range, exploration, drilling, and other development activity will be allowed only from May 16 to October 31. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Roan Cliffs (3,200 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of BLM before additional area can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

To protect deer winter range, exploration, drilling, and other development activity will be allowed only from May 16 to October 31. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Elk and Deer Summer Range (34,331 acres)

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation as specified by the authorized officer of BLM. Any loss of springs or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality, as specified by the authorized officer of BLM.

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of BLM before additional area can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

No surface mining will be allowed in aspen vegetative communities without off-site enhancement of similar vegetative communities of equal wildlife value. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

To protect important elk and deer summer range, exploration, drilling, and other development activity will be allowed only from July 16 to May 17. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Deer Winter Range (11,575 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of the BLM before additional area can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation as specified by the authorized officer of BLM. Any loss of springs or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality, as specified by the authorized officer of BLM.

To protect deer winter range, exploration, drilling, and other development activity will be allowed only from November to mid-May. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specificlly authorized in writing by the authorized officer of BLM.

ALTERNATIVE 4

Roan Cliffs (3,200 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ methods only.

Elk and Deer Summer Range (31,384 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ methods only.

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation as specified by the authorized officer of BLM. Any loss of springs or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality, as specified by the authorized officer of BLM.

No occupancy or other surface disturbance will be allowed on known deer and elk fawning/ calving areas and migration corridors without written permission of the authorized officer of the BLM.

Deer Winter Range (12,088 acres)

No occupancy or other surface disturbance will be allowed on slopes in excess of 50 percent without written permission of the authorized officer of BLM.

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ or underground mining methods only.

To protect important aquifers, all surface and in-situ mining must be preceded by complete hydrological testing and evaluation, as specified by the authorized officer of BLM. Any loss of springs or reduction in perennial streamflow will be fully mitigated with an equal quantity and quality, as specified by the authorized officer of BLM.

No occupancy or other surface disturbance will be allowed on known deer and elk fawning/ calving areas and migration corridors without written permission of the authorized officer of BLM.

Nine Mile Deer Winter Range (2,417 acres)

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ methods only.

White Canyon STSA

ALTERNATIVE 2

Highway U-95 Scenic Corridor (2,340 acres)

No access or work trail or road, earth cut or fill, structure or other improvement, or mine will be permitted if it can be viewed from U-95. This requirement may be modified when specifically approved in writing by the authorized officer of BLM.

To protect desert bighorn lambing areas, exploration, drilling, and other development other than active mining will be allowed only from June 16 through April 30. This limitation does not apply to maintenance and operation of producing mines or wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

San Juan Desert Bighorn Sheep Area (2,387 acres)

To protect desert bighorn lambing areas, exploration, drilling, and other development other than active mining will be allowed only from June 16 to April 30. This limitation does not apply to maintenance and operation of producing mines or wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

ALTERNATIVE 3

Highway U-95 Scenic Corridor (5,881 acres)

No access or work trail or road, earth cut or fill, structure or other improvement, or mine will be permitted if it can be viewed from U-95. This requirement may be modified when specifically approved in writing by the authorized officer of BLM.

To protect desert bighorn lambing areas, exploration, drilling, and other development other than active mining will be allowed only from June 16 through April 30. This limitation does not apply to maintenance and operation of producing mines or wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

CEDAR CITY DISTRICT

Circle Cliffs STSA

ALTERNATIVE 3

Sensitive Watershed (3,480 acres)

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ or underground mining methods only.

Circle Cliffs (10,560 acres)

No surface mining of tar sand deposits is allowed on this lease. The tar sand may be extracted by in-situ or underground mining methods only.

ALTERNATIVE 4

Sensitive Watershed (3,480 acres)

Oil and gas resources on this lease may be extracted by conventional methods only; no in-situ or surface mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydrocarbons and underground mining methods may be employed only upon approval by the authorized officer of BLM.

Circle Cliffs (10,560 acres)

Oil and gas resources on this lease may be extracted by conventional methods only; no in-situ or surface mining methods will be employed to extract tar sand deposits. Secondary recovery of liquid hydrocarbons and underground mining methods may be employed only upon approval by the authorized officer of BLM.

VERNAL DISTRICT

Asphalt Ridge/White Rocks STSA

ALTERNATIVE 2

Sage Grouse Strutting Ground and Nesting Area (1,720 acres)

No occupancy or surface disturbance will be allowed within 1,000 feet of sage grouse strutting grounds. To protect nesting habitat, exploration, drilling and other development activities will only be allowed between June 30 and April 1 within 1.5 miles of any sage grouse strutting ground. This limitation does not apply to maintenance and operation of producing wells. Exceptions to the nesting habitat restriction in any year may be specifically authorized in writing by the authorized officer of the Federal surface management agency.

ALTERNATIVE 3

Sage Grouse Nesting Grounds (2,320 acres)

To protect important seasonal wildlife habitat, exploration, drilling, and other development activity will be allowed only from July 15 to February 15. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of the surface management agency.

Oil and gas resources may be extracted by conventional methods only. Secondary recovery methods of liquid hydrocarbons may be employed only upon approval by the authorized office of BLM.

Cultural Resources (200 acres)

The Federal surface management agency is responsible for determining the presence of cultural resources and specifying mitigation measures required to protect them. Prior to undertaking any surface-disturbing activity on the lands covered by this lease, the lessee/operator, unless notified to the contrary by the authorized officer of the surface management agency, shall:

- Engage the services of a qualified cultural resource specialist acceptable to the surface management agency to conduct an intensive inventory for evidence of cultural resource values;
- Submit a report acceptable to the authorized officer of the surface management agency; and
- Implement such mitigation measures as required by the authorized officer of the surface management agency to preserve or avoid destruction of inventoried cultural resource values. Mitigation may include relocation of proposed facilities, testing and salvage, or other protective measures deemed necessary. All costs of the inventory and mitigation shall be borne by the lessee/operator and all data and materials salvaged shall remain under the jurisdiction of the U.S. Government.

The lessee/operator shall immediately bring to the attention of the District Manager, BLM, any cultural resources, paleontological, and other objects of scientific interest discovered as a result of surface operations under this lease and shall leave such discoveries intact until directed to proceed by the authorized officer of BLM.

Pariette STSA

ALTERNATIVE 2

Waterfowl Habitat (5,200 acres)

No occupancy or other surface disturbance will be allowed within 600 feet of live water. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

ALTERNATIVE 3

Watershed (80 acres)

No occupancy or other surface disturbance wili be allowed within 600 feet of wetland and floodplain environments. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

Watershed (40 acres)

No occupancy or other surface disturbance will be allowed within 600 feet of wetland and floodplain environments. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

Threatened, Endangered, and Sensitive Wildlife Species (80 acres)

To protect seasonal wildlife habitat, surface-disturbing activities will be allowed only from June 15 to November 1. This does not apply to maintenance and operation of producing wells and facilities.

Oil and gas resources may be extracted by conventional methods only; no in-situ or surface-mining methods will be employed. Secondary recovery methods of liquid hydrocarbons may be employed only upon approval by the authorized officer of the Federal surface management agency.

Sensitive Wildlife Species (80 acres)

To protect seasonal wildlife habitat, surface-disturbing activities will be allowed only from June 15 to February 15. This does not apply to maintenance and operation of producing wells and facilities.

Access roads will be placed no closer than 0.25 mile of an active nest or a nest known to be active in one of the previous 3 years.

Oil and gas resources may be extracted by conventional methods only, no in-situ or surface-mining methods will be employed. Secondary recovery methods of liquid hydrocarbons may be employed only upon approval by the authorized officer of the Federal surface management agency.

Threatened and Endangered Plant Species (3,713 acres)

The Federal surface management agency will assure that the area to be disturbed is examined prior to undertaking any surface-disturbing activities on lands covered by this lease. The examination will determine effects on any plant or animal species listed or proposed for listing as endangered or threatened or their habitats. If the findings of this examination determine that the operation may detrimentally affect an endangered or threatened species, some restrictions to the operator's plan of operations or disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects of the proposed action on threatened or endangered species or their habitat.

Argle Canyon/Willow Creek STSA

ALTERNATIVE 2

Soil (12,877 acres)

No occupancy or other surface disturbance will be allowed on slopes that exceed 40 percent without written permission from the authorized officer of the Federal surface management agency.

To minimize erosion, exploration, drilling, and other development activity will be allowed from April to November 1 and only when soils are dry or ground is frozen from November 1 to April 1. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of the Federal surface management agency.

Water Resources (1,036 acres)

No occupancy or other surface disturbance will be allowed within 600 feet of wetland and floodplain environments. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

Crucial Elk and Deer Range (9,765 acres)

No occupancy or other surface disturbance will be allowed on slopes that exceed 40 percent without written permission from the authorized officer of the Federal surface management agency.

No more than 25 percent of the surface area of this lease may be disturbed from surface mining at any given time. Reclamation must be completed and revegetation substantially advanced to the approval of the authorized officer of BLM before additional areas can be disturbed by mining. Exceptions to this requirement may be specifically authorized in writing by the authorized officer of BLM.

No surface mining will be allowed in aspen vegetative communities without off-site enhancement of similar vegetative communities of equal wildlife value. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

To protect important elk and deer summer range and mule deer fawning areas, exploration, drilling, and other development activities will be allowed only from July 16 through May 17. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

To protect important elk and deer winter range, exploration, drilling, and other development activities will be allowed only from April 1 through October 31. This limitation does not apply to maintenance and operation of producing wells or mines. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of BLM.

Sunnyside and Vicinity STSA (Northern Portion)

ALTERNATIVE 2

Soil (15,120 acres)

No occupancy or other surface disturbance will be allowed on slopes that exceed 40 percent without written permission from the authorized officer of the Federal surface management agency.

To minimize soil damage, exploration, drilling, and other development activity will be allowed from April to November 1 and only during dry soil periods, over a snow cover, or on frozen ground from November 1 to April 1. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of the Federal surface management agency.

Water Resources (920 acres)

No occupancy or other surface disturbance will be allowed within 600 feet of live water. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

Water Resources (1,080 acres)

No occupancy or other surface disturbance will be allowed within 600 feet of live water. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency.

Cultural Resources (2,040 acres)

The Federal surface management agency is responsible for determining the presence of cultural resources and specifying mitigation measures required to protect them. Prior to undertaking any surface-disturbing activity on the lands covered by this lease, the lessee/operator, unless notified to the contrary by the authorized officer of the surface management agency, shall:

- Engage the services of a qualified cultural resource specialist acceptable to the surface management agency to conduct an intensive inventory for evidence of cultural resource values;
- Submit a report acceptable to the authorized officer of the surface management agency; and
- Implement such mitigation measures as required by the authorized officer of the surface management agency to preserve or avoid destruction of inventoried cultural resource values. Mitigation may include relocation of proposed facilities, testing and salvage, or other protective measures deemed necessary. All costs of the inventory and mitigation shall be borne by the lessee/operator and all data and materials salvaged shall remain under the jurisdiction of the U.S. Government.

The lessee/operator shall immediately bring to the attention of the District Manager of BLM any cultural resources, paleontological, and other objects of scientific interest discovered as a result of surface operations under this lease and shall leave such discoveries intact until directed to proceed by the authorized officer of the surface management agency.

Threatened or Endangered Species (3,520 acres)

The Federal surface management agency will assure that the area to be disturbed is examined prior to undertaking any surface-disturbing activities on lands covered by this lease. This examination will determine effects on any plants or animal species listed or proposed for listing as endangered or threatened or their habitats. If the findings of this examination determine that the operation may detrimentally affect an endangered or threatened species, some restrictions to the operator's plan of operations or disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects of the proposed action on threatened or endangered species or their habitat.

Visual Resources (11,920 acres)

These areas have been identified as having high aesthetic values and visual sensitivity requiring special protection. Therefore, locations of all long-term permanent facilities should be selected to conform to natural surroundings, and color tones on all permanent and semi-permanent structures and facilities must blend with natural surroundings. Both requirements will be subject to final approval by the authorizing officer of the Federal surface management agency.

APPENDIX 3

GENERAL AND SPECIAL STIPULATIONS

FOR GORDON CORRAL AND FLINT FLAT TRACTS

GENERAL STIPULATIONS

A. Notwithstanding any provisions of this lease to the contrary, any mining, drilling, or other operation on the leased lands that will disturb the surface thereof or otherwise affect the environment, hereinafter called "surface-disturbing operation", conducted by lessee shall be subject, as set forth in this stipulation, to prior approval of such operation by the authorized officer of the Bureau of Land Management in consultation with National Park Service and to such reasonable conditions, not inconsistent with the purposes for which this lease is issued, as the authorized officer may require to protect the surface of the lease lands and the environment.

B. Prior to entry on the surface thereof for drilling lessee shall submit for approval three (3) copies of a plan of operations which shall meet the requirements of 30 CFR 231.4 and 231.10(1), (b), and (c) to the authorized officer and the National Park Service.

The submitted plan of operations must contain, in addition to all the requirements stated above, the methods and actions proposed for the following:

1. Stripping and saving of topsoil;
2. Reclamation of the disturbed areas including, but not limited to, recontouring and revegetation;
3. Erosion control measures on all disturbed areas, roads, and waterway crossings;
4. Road design, construction, and maintenance standards;
5. Resource protection and clearances for cultural, threatened and endangered species, and paleontological resources;
6. Livestock protection;
7. Fugitive dust and emission controls;
8. Wildlife protection and mitigation;
9. Protection of streams, springs, water wells, and other water sources;
10. Methods for retaining all mine drainage and runoff on-site;
11. Protection of recreationists (security, lighting, signs, etc.).

Environmental analysis will be made by the authorized officer in consultation with the National Park Service for the purpose of assuring proper protection of the surface, the natural resources, the environment, existing improvements, and for assuring timely reclamation of disturbed lands.

C. Upon completing of said environmental analysis, the authorized officer shall notify lessee of the conditions, if any, to which the proposed surface-disturbing operations will be subject.

Said conditions may relate to any of the following:

1. Location of mining, drilling, or other exploratory developmental operations or the manner in which they are to be conducted;
2. Types of vehicles that may be used and areas in which they may be used; and
3. Manner or locations in which improvements such as roads, buildings, pipelines, mills, processing plants, or other improvements are to be constructed.

SPECIAL STIPULATIONS

A. The drilling rig would be situated so as to direct cuttings and dust from the blooie line away from the public road and/or away from the eastern cliff edge.

B. Archaeological surveys and clearances would be conducted for the location to the satisfaction of the National Park Service. Operating personnel would be required to refrain from disturbing any cultural/-archaeologic/paleontological resources encountered. Also, if during site construction any new archaeologic/paleontological remains are unearthed, construction would cease immediately and the Glen Canyon National Recreation Area Superintendent contacted. No further work would continue until the extent, nature, and significance of the remains were decided by a qualified archaeologist/paleontologist and further mitigating measures implemented, according to procedures established by the NPS and by the Advisory Council on Historic Preservation.

C. A threatened and endangered species survey and clearance would be conducted to the satisfaction of the National Park Service.

D. A survey and clearance for paleontological resources would be conducted to the satisfaction of the National Park Service.

E. All available topsoil would be removed, stockpiled, and reseeded or otherwise protected in a designated area of the drill pad, and protected from wind and water erosion.

F. The drill pad configurations may be adjusted for aesthetic or resource protection purposes.

G. Access road construction and upgrading would be restricted to the maximum width necessary to accommodate the operation as specified in a road plan approved by the National Park Service.

H. The contractors would notify the Superintendent of Glen Canyon National Recreation Area, or his designee (602-645-2471) 48 hours prior to entering on the National Recreation Area.

I. During construction and operations, "caution" signs would be maintained 200 feet either side of the access location along the public road. Flagmen would be utilized when heavy equipment is being operated on the public road.

J. No off-pad disturbance or vehicular travel would be authorized.

K. Trash bins with fine wire mesh covers would be provided by the permittee and used for all solid waste and garbage. The trash would be hauled and disposed of at the approved disposal site outside the National Recreation Area.

L. Portable toilets would be provided by the leasee and used for all human waste. The wastes would be hauled out and properly disposed of outside the National Recreation Area.

M. This lease is for land located near an area classified "Class I" under Federal "Prevention of Significant Deterioration" air quality regulations. Any development of the tract must be in conformance with all applicable air quality standards and regulations.

N. Control of fugitive dust would be required by non-toxic water sprinkling of roads or other disturbed areas and water spraying of emissions from the blooie line (an air release hose).

O. In the event of a blowout, BLM and the National Park Service would be notified within 24 hours. Reclamation of damage to the surface resouces is the responsibility of the applicant.

P. Upon abandonment, all wells not retained for water would be plugged, all surface facilities removed, and the area reclaimed.

Q. Proper operating methods will be used to protect aquifers.

R. Use of the Gordon Flat's air strip and helicopter use would be subject to the approval of the Superintendent of Glen Canyon National Recreation Area. That approval may include setting times and approaches that may be necessary to protect wildlife from noise disturbances.

S. No burning would be permitted.

T. No surface mining would be permitted on the lease.

U. All operations on the lease would be subject to the regulations in 43 CFR 3140.7.

NPS STIPULATIONS FOR GORDON CORRAL AND FLINT FLAT TRACTS

The following resource protection measures for Gordon Corral and Flint Flat tracts were added by NPS following publication of the Draft EIS.

No surface occupancy of a lease would be permitted in the following sensitive resource areas:

1. *Slopes greater than 33 percent.*
2. *Within 1 kilometer of a raptor site.*
3. *Within 200 feet on either side of an established visitor access road (Flint Trail in the Orange Cliffs).*
4. *Within one-half mile of springs, water wells, and seeps.*
5. *On soils classed by the Soil Conservation Service as being highly susceptible to erosion once disturbed (Begay and Mido soils at Orange Cliffs).*
6. *Areas visible from three or more visitor overlooks of the NRA.*
7. *Areas visible from critical overlooks of Canyonlands National Park (Orange Cliffs).*
8. *Within 1 kilometer of an active eagle nest.*
9. *Within 1500 feet of a cliff face.*
10. *On archeological sites or districts proposed to the National Register of Historic Places.*
11. *Within 1 mile of a visitor contact point (e.g., Hans Flat Ranger Station).*

The above listed measures would preclude development of the Gordon Corral tract and major portions of the Flint Flat tract. It does not appear feasible to develop either tract on its own.

APPENDIX 4

COMMENT LETTERS RECEIVED ON THE *REGIONAL FINAL EIS*

Six comment letters were received during the 30-day comment period for the *Utah Combined Hydrocarbon Leasing Regional Final EIS*. These letters are printed in the following pages of this appendix.

United States Department of Agriculture
Forest Service
Intermountain Region
324 25th Street
Ogden, UT 84401

JUL 3 1 1984

Mr. Roland G. Robison, Jr.
Utah State Director
Bureau of Land Management
136 East South Temple
Salt Lake City, UT 84111

Dear Roland:

Thank you for including our suggestions in the Utah Combined Hydrocarbon Leasing Regional Final EIS. Following are some general comments and two specific comments we would like to make on the Final EIS.

General Comments - Volumes I and II

The BLM has not acknowledged (in the Final EIS) the need for other involved Federal, state, and local agencies to address the Combined Hydrocarbon Leasing (CHL) program in their own planning procedures and processes.

Volume II of the Final EIS should have included discussions on the planning processes and criteria of all involved agencies, as such processes and criteria were related to the CHL program. By not doing so, the Final EIS does not fully disclose the cumulative effects of the CHL program and alternatives on other agencies' planning processes.

The Record of Decision (ROD) for the EIS should explain that Volume II of the Final EIS specifically addresses amendments to BLM planning documents as a result of the CHL programs, and other agencies may find it necessary to prepare similar amendments to their existing or proposed planning documents. The ROD should state that the actual development of tar sand projects on National Forest System lands will be subject to surface management stipulations and mitigation measures as included in Forest land and resource management plans.

Specific Comments

1. The Forest Service comment listed as 34.11 in Volume IV of the Final EIS is only partially addressed. The Volume I, Chapter 3, writeup on the controlling National Forest land use plan is acceptable, but there is no corresponding discussion in Volume I, Chapter 4.

Actual development of a CHL lease, as it affects the surface resources on National Forest System land, will be subject to the goals, objectives, and guidelines for all biological and social resource values as addressed in the Ashley National Forest Land and Resource Management Plan. This should be so stated in the ROD for the Combined Hydrocarbon Leasing EIS.

2. Errors in EIS text that were found and noted are as follows. Such errors will have no effect on the ROD:

a. Volume I, Chapter 3, page 42, table 3-5. Under the "use" column, first paragraph, there should be a comma between the words Domestic and irrigation.

b. Volume I, Chapter 4, page 131.

Livestock grazing for Asphalt Ridge/White Rock STSA.

- There are portions of three (not five) Forest Service cattle allotments within the boundary of the STSA.

c. Volume I, Chapter 4, page 171.

Livestock grazing for Asphalt Ridge/White Rock STSA.

- The list of Forest Service allotments does not match the list on Table 3-17, page 71. The reference "White Rock Allotment" should be changed to Farm Creek Allotment.

These four excellent volumes making up the final EIS will set the standards for industry and governmental land managing agencies or departments to use as they develop the vast hydrocarbon resources. Thank you for your efforts.

Sincerely,

for E R Browning

J. S. TIXIER
Regional Forester

Santa Fe Energy Company

Larry D. Killion
Director Government Affairs

June 21, 1984

Roland G. Robison
Utah State Director
Bureau of Land Management
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

RE: Comments to 1792 (U-933)
Utah Combined Hydrocarbon Leasing
Regional Final EIS, Volumes I-IV

Dear Mr. Robison:

Attached please find comments from Santa Fe Energy Company for the captioned EIS.

Many of Santa Fe's concerns addressed in our December 8, 1983 draft EIS comment letter have been responded to by BLM. However, as indicated in these latest comments, some issues such as air quality impacts and degree of development within the Tar Sand Traingle STSA have not, in our judgment, been adequately addressed. Consequently, conclusions drawn from such analyses are speculative at this time.

Regards,

Larry D. Killion

Larry D. Killion
Director - Government Affairs

/mk

Santa Fe Energy Company
Executive Office
Suite 1000
1616 South Voss Road
Houston, Texas 77057-2696
713/783-2401

A Santa Fe Industries Company

COMMENTS - SECTION 4

COMMENT ON VOLUME 4: PUBLIC COMMENT ANALYSIS

The comment responses to Santa Fe Energy Company's December 8, 1983 comment letter were reasonably responsive. Many of the issues that concerned Santa Fe, such as an awareness that plans of development would be continually upgraded and modified, are now recognized in the environmental impact statement analysis.

Santa Fe is still very much concerned that air quality impacts and degree of development in the Tar Sands Triangle Area are substantially higher than what is practically expected.

COMMENTS - SECTION 1

COMMENTS TO VOLUME 1: REGIONAL ANALYSES

On Page 5 regarding Alternative Two: Old Commercial Productions, the EIS indicates that the Class 1 24-hour and annual increments at Canyonlands National Park for SO_2 PSD limits could be exceeded. The basis of this analysis must be thoroughly presented since mitigating measures and degree of environmental controls have not been discussed.

On Page 10 the comment is made that no tar sands development could occur inside Wilderness Study Areas and proposed Wilderness Areas because development measures could not meet non-impairment standards. Santa Fe is confused with this remark since certain preliminary activities of a tar sand development project could and are expected to meet non-impairment standards. For instance, preliminary core hole analyses result in minimum impacts and are expected to be within non-impairment standard criteria. The Tar Sand Triangle proposed federal unit encompasses a Phase I core hole project schedule the impacts of which are expected to meet non-impairment standards. Consequently the EIS comment appears to be too broad.

On Page 21 a discussion of the description of bitumen recovery process indicates that in-place forward or reverse combustion recovery processes would require upgraded facilities, reduce the viscous bitumen before transportation. This global statement appears to be premature since there is a high

probability that in-situ combustion would reduce the viscosity of the bitumen in the ground as a consequence of cracking, etc. It is possible then for the bitumen to be converted to pipeline quality heavy crude oil prior to being extracted from the reservoir.

On Page 91 Alternative One: High Commercial Production air quality analysis for sulfur dioxide indicates in a conclusionary statement that Class 1 increments will be exceeded at Capital Reef and Canyonlands National Parks. Since only screening models are used to predict air quality impacts this definitive statement that actual violations of Class 1 increments would accrue is incorrect. In addition, increment assumption is based upon direct and secondary sources. No extensive discussion was presented for the bases of secondary source emissions.

On Page 143 Santa Fe raises its objections again that in the Tar Sand Triangle STSA a 60,000 barrels/day of bitumen extracted by in-situ developmet and one 10,000 barrels/day surface mining operation is not to be considered a realistic case. Santa Fe believes these production estimates are excessive and at best only one 30,000 barrels/day in-situ development would be developed in the area.

In addition on Page 143 the air quality summary for the Tar Sand Triangle STSA indicates various violations of TSP incremental limitations. Again, no discretion is given to the type of environmental controls utilized in unit operations. Consequently, the mitigation effect of these types of equipment have not been factored into the analysis.

On Page 179 discussing Alternate Two: Low Commercial Production air quality impact for Tar Sand Triangle STSA another conclusion is made that certain Class II standards and Class I limitations at Canyonlands National Park would be violated. Again this statement is based on only screening type analyses and not to be considered as an absolute indication of tar sands development impacts.

Uintah and Ouray Agency
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

(801) 722-5141

June 28, 1984

Roland G. Robison, Utah State Director
Bureau of Land Management
Utah State Office
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

Dear Mr. Robison:

The Ute Indian Tribe is appreciative of the cooperation and concern of the BLM in the Combined Hydrocarbon Leasing EIS process. The BLM has included tribal concerns into this document. We now offer comment for consideration by BLM as you enter into the formal Record of Decision process.

1) Even though the Whiterocks portion of the Asphalt Ridge/Whiterocks STSA is undergoing site-specific analysis by the U. S. Forest Service, the Ute culinary water system has not been included in this document. Disruption or degradation of this hydrologic system will affect both the Indian and non-Indian populace of the region. We request that full consideration of conversion of oil and gas leases in the STSA be given to this delicate hydrologic system.

2) The effects on the quality of air of development within the Sunnyside, Hill Creek, and P. R. Springs STSA's could have severe impact on the Uintah and Ouray Reservation, especially when coupled with other projects proposed for the Uinta Basin. Visibility losses and/or preclusion of mineral development by PSD increment limitations will have serious economic reprecussions on the Ute Tribe.

3) Increased population will generate immitigable circumstances for the Ute Tribe ranging from public services to recreational opportunity.

Due to the fact that tar sand technology is in infant stages, the Ute Indian Tribe recommends that BLM's attitude toward combined hydrocarbon leasing should be characterized by a reluctance to commit substantial resources to, at best, an economic and development endeavor of limited viability.

BLM should be on notice that the Ute Indian Tribe will take those steps necessary to protect its environmental and cultural resources subjected to potential degradation.

The Ute Tribe appreciates the opportunity to participate in the EIS process. We look forward to a continued working relationship with the Bureau of Land Management.

Respectfully,

UTE TRIBAL BUSINESS COMMITTEE

Frank Arrowchis

Frank Arrowchis, Vice-Chairman

cc: CHC File
E&M Chrono
Jason Cuch
James D. Abshier

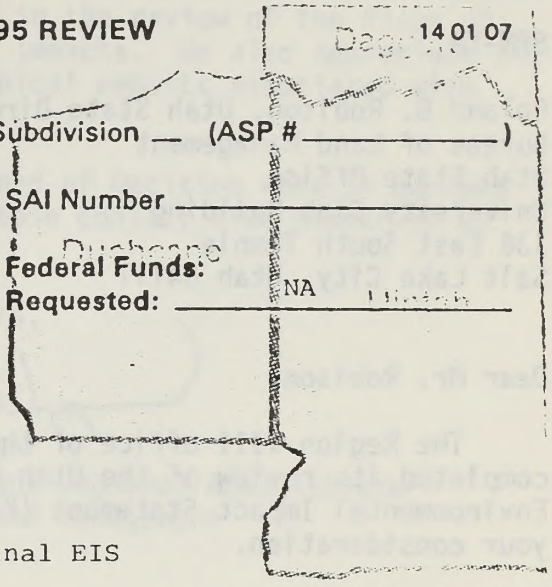
CHC:gw
062884/D15

Uintah Basin Association of Governments

P. O. BOX 1449 (801) 722-4518

ROOSEVELT, UTAH 84066

AREAWIDE CLEARINGHOUSE A-95 REVIEW



NOI___ Preapp__ App __ State Plan __ State Action__ Subdivision __ (ASP #_____)

Other (indicate) EIS SAI Number _____

Applicant (Address, Phone Number):

Roland G. Robison
Bureau of Land Management
Utah State Office
University Club Bldg.
136 East, South Temple
Salt Lake City, Utah 84111

Federal Funds:
Requested: NA

Title: Utah Combined Hydrocarbon Leasing Regional Final EIS

- ☐ No Comment
- ☐ See Comments below
- ☐ No action taken because of insufficient information
- ☐ Please send your formal application to us for review. Your attendance is requested ☐

The applicant should forward any written review comments to the funding agency. Any written response to those comments should be forwarded to the State Clearinghouse and also to the funding agency.

Comments:

Copy mailed to Utah State Planning Coordinator's office, A-95 Contact

Authorizing Official _____ Date _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

JUL 12 1984

8PM-EA

Roland G. Robison, Utah State Director
Bureau of Land Management
Utah State Office
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

Dear Mr. Robison:

The Region VIII office of the Environmental Protection Agency (EPA) has completed its review of the Utah Combined Hydrocarbon Leasing Regional Final Environmental Impact Statement (FEIS) and offers the following comments for your consideration.

We find the FEIS to be generally responsive to comments and concerns raised by our review of the DEIS. We are also aware of the difficulty of measuring potential environmental impacts when detailed information of existing water quality and air quality is not available and information on anticipated levels of production is highly speculative. Given present technology, it would appear that production, even at the Low Commercial Production level would exceed air quality standards. Information is unavailable to adequately quantify water quality impacts from these technologies but these impacts could be severe as well.

There are two responses that we consider to be incomplete. Comment number 35.20 was intended to call attention to the fact that there is very little existing experience with in situ technologies for recovery of tar sands and that further research should be completed prior to the selection of in situ as a valid recovery method. We realize that the ". . .best information on available technology was utilized." in the FEIS discussion. The magnitude of the action proposed in the FEIS makes it imperative that by the time it becomes feasible to develop Plans of Operation for in situ operations, more definitive information and advanced technology will be available for evaluation.

The response to comment number 35.21 indicates that additional analysis of Plans of Operation will be used to focus on ground water impacts caused by tar sand recovery. Probable impacts in ground water or degradation of underground sources of drinking water (USDWs), must be identified with a reliable degree of certainty prior to deciding on the acceptability of the environmental costs of proposed tar sands recovery projects.

We continue to have serious environmental reservations over the potential water and air quality impacts of tar sands development. It is important that we continue to cooperate in the development of future environmental documents in an attempt to mitigate these impacts as more definitive information becomes available. EPA is prepared to assist the BLM in the review of the Plans of Operation for potential water and air quality impacts. We also appreciate the opportunity to review the BLM-contracted technical reports associated with this potential industry.

Please provide us with a copy of the Record of Decision when it becomes available. Should you have any questions, please contact Mike Hammer of my staff, at FTS 564-2351.

Sincerely yours,

for Jack W. Hoffbuhr
Acting Assistant Regional Administrator
for Policy and Management

ENVIRONMENTAL DEFENSE FUND

July 9, 1984

Mr. Roland G. Robison, Utah State Director
Bureau of Land Management
Utah State Office
University Club Bldg.
136 East South Temple
Salt Lake City, UT 84111

Mr. Robison:

Though we filed scoping comments with your office for the Utah Combined Hydrocarbon Leasing Regional EIS, we did not receive either the DEIS or the FEIS. Hence, we did not have the opportunity to comment on the DEIS.

I spoke with Tom Slater of your office this morning. He said that if our organization submits comments on the FEIS by July 25, the Utah State Office of the BLM would address them. It is our intention to submit comments by the above date.

Sincerely,

Brent Bernau

Brent Bernau,
Legal Intern

1405 Arapahoe Avenue Boulder, Colorado 80302 (303) 440-4901
OFFICES IN NEW YORK, NY (National Headquarters); WASHINGTON, DC; BERKELEY, CA; RICHMOND, VA; BOULDER, CO

APPENDIX 5

SUMMARY OF ENVIRONMENTAL IMPACTS

This appendix contains in table form the summaries of environmental effects for each of the alternatives considered in Volumes II and III of the *Utah Combined Hydrocarbon Leasing Regional Final EIS*. Tables 1 to 8 relate to amendments for the land use plan leasing categories for the seven STSAs which were considered, while Table 9 relates to the analysis for the competitive lease sale. Table 10 shows the categories considered in analyzing the competitive sale.

TABLE 1

SUMMARY OF ENVIRONMENTAL CONSEQUENCES
San Rafael Swell STSA

STSA	Issues and Concerns	Resource	Maximum Development (1)	No Action (2)	Multiple Use (Preferred Alternative) (3)	Restricted Development (4)
San Rafael Swell	Recreation & Visual Resources: The STSA contains outstanding scenery and recreational opportunities. Little degradation of scenic vistas has occurred.	Tar Sand	Development could occur on 115,705 acres (100 percent of the STSA), producing about 500 million barrels of in-place bitumen.	Development could occur on 76,828 acres, producing about 245 million barrels of in-place bitumen.	Development could occur on 81,414 acres, producing about 282 million barrels of in-place bitumen.	Impacts would be similar to Alternative 3 except that category 2 stipulations would limit development on 13,757 acres.
		Other Minerals	No significant impacts.	No significant impacts.	No significant impacts.	No significant impacts.
	Soils: The STSA has shallow soils highly susceptible to erosion. Reclamation of disturbed areas would be impossible.	Geology and Topography	Topographic features could be altered on 115,705 acres (100 percent of the STSA).	Topographic features could be altered on 76,828 acres (67 percent of the STSA).	Topographic features would be altered on 81,414 acres (70 percent of the STSA).	Impacts would be similar to Alternative 3 except that category 2 stipulations would limit impacts on 13,757 acres.
	Wilderness: The STSA has wilderness qualities that could be destroyed with development. IMP directs management on 24 percent of the area.	Air Quality	Serious air quality problems could occur.	Similar to Alternative 1; however, the extent could differ, depending on development.	Same as Alternative 2.	Same as Alternative 2.
	Minerals: Uranium and vanadium deposits (mines) directly overlay tar sand deposits.	Soils	Increased soil erosion could occur on 115,705 acres.	Increased soil erosion could occur on 76,828 acres.	Increased soil erosion could occur on 81,414 acres.	Impacts would be similar to Alternative 3 except that category 2 stipulations would limit impacts on 13,747 acres.
	Wildlife: Desert bighorn sheep habitat, wild horse and burro range, and a golden eagle nest site are the major wildlife concerns.	Vegetation	Vegetation disturbance could occur on 115,705 acres.	Vegetation disturbance could occur on 76,828 acres.	Vegetation disturbance could occur on 81,414 acres.	Impacts would be similar to Alternative 3 except that category 2 stipulations would limit impacts on 13,747 acres.
		Water Resources	Water resource degradation could occur throughout all or part of STSA.	Water resource degradation could occur on 76,828 acres of the STSA.	Impacts would be similar to Alternative 2 except the San Rafael floodplain and riparian area would receive additional protection by category 2 stipulations. This area is considered a sensitive water resource.	Same as Alternative 3.
	Livestock: Carrying capacity for livestock is relatively low.					
	Vegetation: Five sensitive plants and one endangered plant are found within the STSA.	Wildlife	Impacts to wildlife species including desert bighorn sheep, wild horses and burros, and golden eagles could occur on 115,705 acres.	Impacts to wildlife species, including wild horses and burros and golden eagles could occur on 76,828 acres.	Slight impacts would occur to desert bighorn sheep habitat. Impacts to other wildlife would not occur because riparian habitat along San Rafael River would be protected by a category 2 stipulation.	Same as Alternative 3.
		Livestock and Agriculture	Total loss of grazing AUMs and loss of springs could occur on 115,705 acres.	Total loss of grazing AUMs and loss of springs could occur on 76,828 acres.	Same as Alternative 2.	Same as Alternative 2.
		Visual Resources	Landform modification and a loss of scenic quality could occur on 115,705 acres.	Landform modification and a loss of scenic quality could occur on 76,828 acres. However, categories 3 and 4 would protect high quality scenic areas.	Landform modification and a loss of scenic quality could occur on 81,414 acres. However, categories 3 and 4 would protect high quality scenic areas.	Impacts would be similar to Alternative 3 except category 2 stipulations would limit landform modification from occurring on 13,747 areas.
		Cultural Resources	Archaeological values could be lost on 115,705 acres.	Archaeological values could be lost on 76,828 acres.	Archaeological values could be lost on 81,414 acres.	Impacts would be similar to Alternative 3 except that category 2 stipulations would limit impacts on 13,747 acres.
		Recreation	Recreational activities could be lost on 115,705 acres.	Loss of recreational activities could occur on 76,828 acres. Protected areas include: Mexican and Sid mountains, San Rafael Campground, I-70 scenic corridor, Copper Globe area, Sulfur Canyon, and Cat and Hebe canyons.	Loss of recreational activities could occur on 81,414 acres. Protected areas include Sid's and Mexican mountains, I-70 scenic corridor, and Muddy Creek. San Rafael floodplain and campground would be protected from development. Impacts could occur at the Temple Mountain base.	Impacts would be similar to Alternative 3 except that a category 2 stipulation would limit impacts on 13,747 acres in the Temple Mountain area.
		Land Use Plans	Land uses in the STSA could shift from livestock grazing and recreation to tar sand development. No conflicts exist with existing rights-of-way.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
		Socioeconomics	Housing shortages and overburdening of public facilities could occur. However, increased employment and revenue could result.	Impacts would be similar to Alternative 1 although the extent would be smaller	Impacts would be less than Alternative 1, but greater than Alternative 2.	Same as Alternative 3.

TABLE 2

Sunnyside and Vicinity STSA (Southern Portion)

(continued)

STSA	Issues and Concerns	Resource	No Action/Development (1)	Multiple Use (2)	Multiple Use (Preferred) (3)	Restricted Development (4)
Sunnyside and Vicinity (Southern Portion)	Watershed: The Sunnyside municipal watershed could be subject to surface disturbance if development occurred. Careful mitigation would be required to protect this resource from development. Underground Aquifers: Numerous seeps, springs, and mountain streams are found in the STSA and could be seriously impacted by tar sand development. Impacts to these vital water sources could affect wildlife, livestock, fisheries, and downstream water users. Wildlife: The STSA contains crucial summer and winter habitat for deer. In addition, the area provides crucial sage grouse habitat. Archaeology: The Nine Mile Canyon Archaeological District contains a heavy concentration of archaeological sites in the San Rafael Fremont area. Large-scale mining would conflict with the archaeological resources present. Recreation and Visual Resources: The area has outstanding scenery and is in VRM Classes II and III. The area also provides quality hunting, fishing, and sightseeing opportunities. Public Access: Tar sand development would conflict with access. Rights-of-way: Conflicts with rights-of-way could occur. Livestock Grazing: Loss of Federal AUMs could occur. Vegetation: Loss of vegetative cover necessary to protect watershed and provide livestock and wildlife forage could occur. Wild Horses: Loss of forage and cover could occur. Wilderness: Opinion varies as to extent of protection needed. Split Estate: In some areas of the STSA mineral ownership is Federal, while surface rights are private or State-owned. Combinations between controlling interests must be initiated before any plan of operation is approved.	Tar Sand	This alternative would make approximately 4 billion barrels of in place bitumen available for extraction.	This alternative would make about 880 million barrels of in-place bitumen available for extraction.	majority of tar sand would be available.	Because the entire STSA would be closed to surface mining, much of the tar sand deposits would be unrecoverable.
		Other Minerals	Oil shale and oil and gas loss could occur over 71,167 acres (95 percent of the STSA).	Oil shale and oil and gas loss could occur on 16,161 acres (21 percent of of the STSA).	Oil shale and oil and gas loss could occur on 67,269 acres (90 percent of the STSA).	No impacts to other mineral resources would occur.
		Wilderness Values	No impacts.	No impacts.	No impacts.	No impacts.
		Air Quality	Serious air quality problems could occur.	Impacts would be similar to Alternative 1; however, the extent could differ depending on development.	Same as Alternative 2.	Same as Alternative 2.
		Geology and Topography	Topographic features could be altered on 71,167 acres.	Topographic features could be altered on 16,161 acres.	Topographic features could be altered on 67,269 acres.	Subsidence impacts related to in-situ development could occur on 49,098 acres (65 percent of the STSA). Because of category 2 special stipulations, topographic modification from in-situ development would be expected to be minor.
		Soils	Increased erosion from tar sand development could occur on 71,167 acres (95 percent of STSA).	Increased soil erosion from tar sand development could occur on 16,161 acres (21 percent of the STSA).	Increased soil erosion could occur on 67,269 acres.	Increased soil erosion could occur on slopes less than 50 percent. Because of category 2 special stipulations, soil erosion from in-situ development would be expected to be minor.
		Vegetation	Vegetation disturbance could occur on 71,167 acres.	Vegetation disturbance could occur on 16,161 acres.	Vegetation disturbance could occur on 67,269 acres.	Vegetation disturbance from in-situ development could occur on 49,098 acres. However, because of category 2 special stipulations, these impacts would be expected to be minor.
		Water Resources	Water resources degradation (surface and subsurface) could occur on 71,167 acres.	Water resource degradation (surface and subsurface) could occur on 16,161 acres.	Water resource degradation (surface and subsurface) could occur on 67,269 acres.	Water resource degradation (surface and subsurface) could occur on 49,049 acres. However, because of category 2 stipulations, water degradation would be expected to be minor.
		Wildlife	Tar sand development could destroy: 34,341 acres of crucial deer/elk summer range; 14,505 acres of crucial deer winter range; 389 acres of golden eagle nesting habitat; 2,236 acres of sage grouse strutting and nesting habitat; 3,263 acres of high quality aspen habitat; and 4,813 acres of riparian habitat. In addition, perennial streams which support fisheries could be altered and possibly lost as a result of surface mining, dewatering, or contamination. Deer and elk fawning/calving areas and migration corridors would not be protected.	Tar sand development could destroy 16,286 acres of crucial deer/elk summer range, 2,890 acres of crucial deer winter range; 3,263 acres of high quality aspen habitat, and 1,533 acres of riparian habitat. In addition, perennial streams which support fisheries could be subject to contamination and sedimentation. Deer and elk fawning/calving areas and migration corridors would not be protected.	Tar sand development could destroy: 34,331 acres of crucial deer/elk summer range; 14,505 acres of crucial deer winter range, 3,263 acres of high quality aspen habitat, 798 acres of riparian habitat, and 1,758 acres of sage grouse nesting habitat. In addition, perennial streams which support fisheries could be subject to contamination and sedimentation. Deer and elk fawning/calving areas and migration corridors would not be protected.	Tar sand development could destroy 31,384 acres of elk and deer summer range and 14,505 acres of crucial deer winter range. However, because of category 2 special stipulations, loss of these habitat types would be expected to be minor.
		Livestock and Agriculture	Tar sand development could result in the loss of suitable grazing AUMs on 71,167 acres. In addition, four springs, one corral, and 5 miles of fence could be lost and the wild horse population displaced.	Tar sand development could result in the loss of suitable grazing AUMs on 16,161 acres.	Tar sand development could result in the loss of suitable grazing AUMs on 67,269 acres. Wild horse populations would be displaced.	Tar sand development could result in the loss of suitable grazing AUMs on 49,098 acres. Most of the wild horse habitat would not be disturbed. However, because of category 2 stipulations, the loss of AUMs would be expected to be minor.
		Visual Resources	Landform modification and a loss of scenic quality could occur on 71,167 acres.	Landform modification and a loss of scenic quality could occur on 16,161 acres.	Landform modifications and a loss of scenic quality could occur on 67,269 acres.	Landform modifications and a loss of scenic quality could occur on 49,098 acres; however, because of category 2 stipulations these impacts would be expected to be minor.
		Cultural Resources	Archaeological values could be lost on 71,167 acres.	Archaeological values could be lost on 16,161 acres.	Archaeological values could be lost on 67,269 acres.	Archaeological values could be lost on 49,098 acres; however, because of category 2 stipulations, impacts would be expected to be minor.
		Recreation	Loss of recreational activities could occur on 17,167 acres.	Loss of recreational activities from tar sand development could occur on 16,161 acres.	Loss of recreational activities could occur on 67,269 acres.	Loss of recreational activities could occur on 49,098 acres; however, because of category 2 stipulations, impacts would be expected to be minor.
		Land Use Plans	Conflicts with existing rights-of-way could occur on 71,167 acres.	Conflicts with existing rights-of-way could occur on 16,161 acres in category 2 areas; however, portions of the entire STSA might not be affected.	Same as Alternative 1.	Impacts would be similar to Alternative 2, except obliteration of roads and pipelines from surface mining would not occur.
		Socioeconomics and Public Attitudes	Housing shortages and overburdening of public facilities could occur; however, increased employment and revenue could also occur.	Impacts would be less than Alternative 1.	Impacts would be less than Alternative 1 but greater than 2.	Because of category stipulations, impacts would be minor.

TABLE 3
White Canyon STSA

(continued)

STSA	Issues and Concerns	Resource	No Action/Maximum Development (1)	Multiple Use (Preferred Alternative) (2)	Resource Protection (3)
White Canyon	Visual Resources: The STSA is crossed by U-95 which has been designated as Utah's Bicentennial Highway. Federal agencies developed recommendations restricting development and visual intrusions along U-95. Tar sand development could conflict with these recommendations. Wildlife: The STSA includes habitat for desert bighorn sheep, and impacts from tar sand development could eliminate these animals from the STSA.	Tar Sand	All but 240 acres of the STSA would be open to development.	Approximately 97 percent of the STSA would be open to development; however, a special restriction would limit mining activities on 2,340 acres (29 percent of STSA).	Same as Alternative 2
		Other Minerals	Uranium mining could be curtailed.	Same as Alternative 1.	Same as Alternative 1.
		Air Quality	Impacts to air quality could include fugitive dust along roads, vehicle emissions, and processing plant emissions.	Same as Alternative 1.	Same as Alternative 1.
		Geology and Topography	Topographic features from tar sand development could be altered.	Same as Alternative 1.	Same as Alternative 1.
		Soils	Soil erosion could increase on 7,805 acres.	Soil erosion could increase on 3,078 acres.	Soil erosion could increase on 1,924 acres.
		Vegetation	Vegetation disturbance could occur on 7,805 acres.	Vegetation disturbance could occur on 3,078 acres.	Vegetation disturbance would be similar to Alternative 2.
		Water Resources	Although the spring in Short Canyon would not be impacted, tar sand development could alter runoff patterns.	Same as Alternative 1.	Same as Alternative 1.
		Wildlife	Displacement and disturbance to desert bighorn sheep could occur over most of the STSA.	Mining would disrupt desert bighorn sheep movement throughout the entire STSA.	Mining would disrupt desert bighorn sheep movement in the entire STSA.
		Livestock and Agriculture	Forest production could be improved from rehabilitated tar sand development areas.	Same as Alternative 1.	Same as Alternative 1.
		Visual Resources	Tar sand development could produce a significant visual intrusion throughout most of the STSA.	Landform modification could exceed that allowable for VRM Class II and IV areas in 38 percent of the STSA.	Same as Alternative 2.
		Cultural Resources	Archaeological values could be lost on 7,805 acres.	Archaeological values on approximately 43 percent of the STSA could be lost.	Impacts to archaeological values would not occur on approximately 43 percent of the STSA.
		Recreation	The quality of sightseeing opportunities would be degraded if development occurred within the U-95 visual corridor.	All impacts to recreation would be avoided.	All impacts to recreation would be avoided.
		Land Use Plans	Impacts to future development of the Happy Jack Mine are not anticiated on non-Federal parcels. Development of adjacent Federal lands could be curtailed or foregone if tar sand development occurred.	Same as Alternative 1.	Same as Alternative 1.
		Socioeconomics	There would be no work force requirements or socioeconomic impacts.	Same as Alternative 1.	Same as Alternative 1.

TABLE 4
Circle Cliffs STSA

(continued)

STSA	Issues and Concerns	Resource	No Action (1)	Maximum Development (2)	Multiple Use (Preferred Alternative) (3)	Restricted Development (4)
Circle Cliffs	Because STSA boundaries are near and in Capitol Reef National Park, concerns for watershed contamination, degradation of air quality, increased ORV use, hunting and trepass, are primary concerns.	Tar Sand	About 1 percent of the Westbank deposit (4-9 million barrels of oil) would be foregone from recovery.	All recoverable oil would be extracted.	About 1 to 2 percent of the total recoverable resource (2.2-4.4 million barrels of oil) would be foregone.	About 5.5 to 11 percent of the total recoverable resource (7-14 million barrels of oil) would be foregone.
		Other Minerals	Some uranium deposits could be destroyed from surface mining in the White Canyon Flat Area.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Natural and scenic qualities of the area could be destroyed by development in and near areas currently protected for recreation and scientific uses in Wolverine Petrified Wood and Escalante Canyon Outstanding Natural Areas.	Air Quality	Emissions of sulfur dioxide, nitrogen dioxide, and particulate matter would be expected to impact Capitol Reef National Park.	Emissions and particulate matter entering the Capitol Reef National Park air space would be slightly higher than Alternative 1.	Emissions and particulate matter impacting Capitol Reef National Park would be slightly less than those occurring under Alternatives 1 and 2.	Emission and particulate matter impacting Capitol Reef National Park would be less than Alternative 3.
		Soils	Soil erosion could increase on 27,300 acres.	Soil erosion could increase on 28,400 acres.	Soil erosion would be expected to increase on 26,000 acres.	Soil erosion would be expected to increase on 22,600 acres.
	Much of the Circle Cliffs area has outstanding quality scenery which could be damaged. Recreation areas, such as the Burr Trail, could lose their appeals with increased traffic.	Vegetation	Approximately 16,020 acres of vegetation having a low potential for reclamation would be destroyed.	Approximately 17,140 acres of vegetation having a low potential for reclamation would be destroyed.	Approximately 14,720 acres of vegetation, having a low potential for reclamation would be destroyed.	Approximately 13,360 acres of vegetation, having a low potential for reclamation would be destroyed.
		Water Resources	Areas draining into Capitol Reef National Park would be affected by increased sediment yields and flood damage by both in-situ and surface mining on 1,285 acres. Groundwater quality and flow could be seriously impacted from in-situ mining on 610 acres. Some alluvial aquifers would be lost from tar sand and overburden removal.	Impacts would be slightly greater than Alternative 1.	No surface mining would be allowed on areas draining into Capitol Reef National Park. However, sediment yield and flood damage from in-situ mining could occur on 610 acres. Groundwater quality and flow could be seriously impacted from in-situ mining on 610 acres.	Slightly less erosion and groundwater degradation would occur than under Alternative 3.
		Wildlife	Approximately 9 percent of the crucial deer winter range within the STSA would be lost. In addition, 1,080 acres of bighorn sheep habitat would be lost Potential peregrine falcon (an endangered species) nesting habitat could be destroyed.	Ten percent of the crucial deer winter range within the STSA would be lost under this alternative. In addition, 1,080 acres of bighorn sheep habitat in the southeastern portion of STSA would be lost. Potential peregrine falcon (an endangered species) nesting habitat could be destroyed.		
		Livestock and Agriculture	Forage production (AUMs) on about 16,020 acres having a low potential for reclamation would be lost.	Forage production (AUMs) on 17,140 acres having a low potential for reclamation would be lost.	Forage production (AUMs) on 14,720 acres having a low potential for reclamation would be lost.	Forage production (AUMs) on 13,360 acres having a low potential for reclamation would be lost.
		Visual Resouces	Contrast ratings on 360 acres of Class I, 9,497 acres of Class II, 9,873 acres of Class III, and 37,030 acres of Class IV would be exceeded. VRM Class I and II goals would be foregone permanently.	Same as Alternative 1 except contrast ratings on 1,480 acres of Class I would be exceeded.	Contrast ratings on VRM Class I areas (1,480 acres) would be exceeded. VRM Class II management goals could be obtained within 10 years.	Contrast ratings on all lands within VRM Class I areas (1,480 acres) would not be exceeded. VRM Class II and certain Class III areas would be exempt from impacts.
		Recreation	An estimated 2,500 visitor days per year would be displaced upon maximum development of tar sand resource. Lost recreational activities would occur throughout the STSA. However, the scientific and natural values associated with the Wolverine Petrified Wood Natural Area would not be impacted.	Impacts would be similar to Alternative 1 except scientific and natural values in the Wolverine Petrified Wood Natural Area would be impacted.	Impacts would be the same as Alternative 2, except that the scientific and natural values associated with Wolverine Petrifed Wood Natural Area and Escalante Canyons Outstanding Natural Area would be protected.	Primary impacts would not occur where in-situ or surface mining was prohibited. Secondary impacts would occur on Burr Trail and other areas.

TABLE 5

Asphalt Ridge/White Rocks STSA

(continued)

STSA	Issues and Concerns	Resource	Maximum Development (1)	No Action (2)	Multiple Use (Preferred Alternative) (3)	Restricted Development (4)
Asphalt Ridge/ White Rocks	Wildlife: Sage grouse strutting ground and nesting habitat is located within the STSA boundary. These habitats are of special concern and have high public interest. Tar sand development would conflict with with this resource.	Tar Sand and Oil and Gas	Development would be restricted on 155 acres of sage grouse strutting ground. Development within 1 1/2 miles of nesting habitat could occur only from July 1 to May 31 each year.	No restrictions to development.	Development would be restricted on 40 acres of sage grouse strutting habitat. Development on 2,328 acres of surrounding strutting grounds could occur only from July 1 to May 31 each year.	Development could not be allowed on 2,560 acres (19 percent of the STSA).
		Other Minerals	No impacts.	No impact.	No impact.	No impact.
	Cultural Resources: The STSA contains four archaeological sites with potential for nomination to the National Register of Historic Places. Tar sand development would conflict with these sites.	Geology and Topography	Topographic features could be altered on 13,014 acres.	Topographic features could be altered on 13,169 acres.	Topographic features could be altered on 13,129 acres.	Topographic features could be altered on 10,609 acres.
		Soils	Increased soil erosion could occur on 13,014 acres.	Increased soil erosion could occur on 13,169 acres.	Increased soil erosion could occur on 13,129 acres.	Soil erosion could increase on 10,609 acres.
		Vegetation	Vegetation disturbance could occur on 13,014 acres.	Vegetation disturbance could occur on 13,169 acres.	Vegetation disturbance could occur on 13,129 acres.	Vegetation disturbance could occur on 10,609 acres.
		Water Resources	Same as Alternative 2.	No impacts to surface water would be expected. Impacts to groundwater from in-situ mining would be expected where this type of development occurred.	Same as Alternative 2.	Same as Alternative 2.
		Wildlife	Sage grouse nesting habitat within 1 1/2 miles of strutting grounds could be developed. However, this development could only take place from July 1 to May 31 each year.	One hundred and fifty-five acres of sage grouse strutting grounds (1,000-ft. buffer zone included) would be destroyed. Sage grouse nesting habitat within 1 1/2 miles of strutting grounds could be developed.	Sage grouse nesting habitat on 2,328 acres surrounding strutting grounds could be developed. However, this development could only take place from July 1-May 31 each year.	No impacts to sage grouse strutting or nesting habitat would occur because of the No Surface Occupancy stipulation
		Livestock and Agriculture	A loss of 183 Federal AUMs could occur on 13,169 acres.	Same as Alternative 1.	A loss of 182 Federal AUMs could occur.	A loss of 147 Federal AUMs could occur.
		Visual Resources	Landform modification could occur on 13,014 acres.	Landform modification could occur on on 13,169 acres.	Landform modification could occur on 13,129 acres.	Landform modification could occur on 10,609 acres.
		Cultural Resources	Archaeological values could be lost on 13,014 acres.	Archaeological values could be lost on 13,169 acres	Archaeological values could be lost on 12,929 acres.	Archaeological values could be lost on 10,609 acres.
		Recreation	Some loss of sage grouse hunting opportunities.	Loss of sage grouse hunting opportunities.	No impacts to sage grouse hunting opportunities would occur.	No impacts to sage grouse hunting opportunities would occur.
		Land Use Plans	Conflicts with existing rights-of-way for roads, pipelines, and communication sites on 13,014 acres could occur.	Conflicts with existing rights-of-way for roads, pipelines, and communication sites on 13,169 acres could occur.	Conflicts with existing rights-of-way for roads, pipelines, and communication sites on 13,129 acres could occur.	Conflicts with existing rights-of-way for roads, pipelines, and communication sites on 10,609 acres could occur.
		Socioeconomics	Housing shortages and overburdening of public facilities and services could occur. However, possible increases in employment and tax revenue could also occur.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.

TABLE 6
Pariette STSA

(continued)

STSA	Issues and Concerns	Resource	Maximum Development (1)	No Action (2)	Multiple Use (3)	Restricted Development (4)
Pariette	Watershed: The STSA contains public lands defined as wetlands and floodplains and waterfowl habitat. In addition, Federal lands containing important live water are also within the STSA. Water is scarce and full tar sand development could interrupt water flow.	Tar Sand	Open leasing would provide for maximum development of oil and gas and tar sand resources.	The stipulation for wetlands would restrict surface intensive development such as surface mining, although the potential for this type of development is low.	Protection of renewable resources would not unreasonably interfere with development.	This alternative could eliminate recovery of tar sand.
		Other Minerals	No impacts.	No impacts.	No impacts.	No impacts.
		Water Resources	Tar sand development could result in surface disturbance and contamination of surface and groundwater. Wetlands and floodplains could also be damaged.	Special stipulations would protect wetlands, floodplains, and waterfowl habitat.	Similar to Alternative 2 except an additional 40 acres would be protected.	This alternative would provide the maximum amount of protection to wetlands and floodplains through a no surface occupancy stipulation.
	Wildlife: Golden eagle roost sites as well as bald and golden eagle concentration areas are found within the STSA. These areas could require special protection if oil and gas or tar sand development occurred. In addition, the area includes a portion of the Pariette Waterfowl Management Area.	Wildlife	Tar sand development could result in disturbance or displacement (loss of roosting and/or prey habitat) of wintering bald and golden eagles. In addition, destruction of waterfowl brooding and nesting habitat would occur.	Same as Alternative 1 except that a stipulation would protect waterfowl habitat.	Special stipulations would preclude impacts from tar sand development.	No impacts to wildlife would occur.
		Vegetation	Surface-disturbing activities would require the removal of vegetation and topsoil. Construction activities could destroy existing populations and potential habitat for the threatened Uinta Basin hookless cactus.	Same as Alternative 1.	*If the Uinta Basin hookless cactus were found on any site proposed for disturbance, consultation with the FWS would be necessary prior to hydrocarbon development.*	This alternative would preclude adverse impacts to threatened and endangered plants and their potential habitats.
		Socioeconomics	In many cases, public facilities could not accommodate the expected population increases resulting from tar sand development.	Same as Alternative 1.	Same as Alternative 1.	Because of leasing restrictions, impacts would be significantly less than Alternatives 1, 2, or 3.

TABLE 7

Argyle Canyon/Willow Creek STSA

(continued)

STSA	Issues and Concerns	Resource	No Action/Development (1)	Multiple Use (Preferred Alternative) (2)	Restricted Development (4)
Argyle Canyon/-Willow Creek	Wildlife: The STSA contains crucial summer habitat for elk and mule deer as well as sage grouse habitat.	Tar Sand and Oil and Gas	Development could occur on 12,877 acres, with an estimated production of 3 to 5 million barrels of oil.	No development on slopes greater than 40 percent could occur without written permission from the authorized officer.	No mineral development would occur.
	Water Resources: The STSA contains wetlands and floodplains protected by Executive Orders.	Other Minerals	No restrictions would be placed on mining activity.	No impact to other minerals.	No mineral development would occur.
	Soils: Soils within the STSA have a high erosion hazard and require special protective measures.	Geology and Topography	Topographic features could be altered on 12,877 acres.	Topographic features on slopes greater than 40 percent would not be altered unless written permission for development was obtained.	No impacts.
		Soils	Soil erosion could increase on 12,877 acres.	Increased soil erosion on slopes less than 40 percent could occur. In addition, soil erosion could increase on slopes greater than 40 percent if written authorization for development were obtained.	No impacts.
		Vegetation	Vegetation disturbance could occur on 12,877 acres having a low potential for reclamation.	Vegetation disturbance on slopes less than 40 percent could occur. In addition, vegetation disturbance could occur on slopes greater than 40 percent if written authorization for development were obtained.	No impacts.
		Water Resources	Approximately 1,036 acres of wetlands/floodplains would be destroyed.	No impacts.	No impacts.
		Wildlife	Approximately 12,193 acres of mule deer and elk crucial summer range could be destroyed.	Development could only occur between July 1-May 31 of each year on crucial summer range for elk and deer. Areas with less than 40-percent slope could be destroyed from development. In addition, crucial summer range for elk and deer on areas greater than 40-percent slope could be destroyed if written authorization for development of these areas were obtained.	No impacts.
		Livestock	All AUMs on suitable livestock grazing areas could be lost.	All Federal AUMs on suitable livestock grazing areas with slopes less than 40-percent could be lost.	No impacts.
		Visual Resources	Landform modification and a loss of scenic quality could occur on 12,877 acres.	Landform modification and a loss of scenic quality could occur on slopes less than 40 percent. In addition, scenic quality of areas with slopes greater than 40 percent could be impaired if written authorization to develop these areas were obtained.	No impacts.
		Cultural Resources	Archaeological values on 12,877 acres could be destroyed.	Archaeological values on slopes less than 40 percent could be destroyed. In addition, archaeological values on slopes greater than 40 percent could be destroyed if written authorization to develop these areas were obtained.	No impacts.
		Recreation	Hunting, sightseeing, and ORV activities could be lost on 12,877 acres.	There could be some loss of hunting, sightseeing, and ORV opportunities.	No impacts to hunting, sightseeing, or ORV activities would occur.
		Land Use Plans	Conflicts with existing rights-of-way could occur on 12,877 acres.	Conflicts with existing rights-of-way could occur on slopes less than 40 percent. In addition, conflicts with existing rights-of-way could occur on slopes greater than 40 percent if written authorization to develop these areas were obtained.	No conflicts with existing land use plans would occur.

TABLE 8

(continued)

Sunnyside STSA (Northern Portion)

STSA	Issues and Concerns	Resource	No Action/Development (1)	Multiple Use (Preferred Alternative) (2)	Restricted Development (3)
Sunnyside (Northern Portion)	Soils: There are soils within the STSA having a high erosion hazard which require special protection. Water Resources: The STSA contains wetlands, floodplains, and springs requiring special protection. Archaeology: The STSA encompasses the Nine Mile Canyon Archaeological District, which is nominated to the National Register of Historic Places. Threatened and Endangered Species: The Uinta Basin hookless cactus occurs in the northern portion of the STSA. Recreation and VRM: The Nine Mile Canyon area of the STSA contains outstanding scenery and has been rated as a VRM Class II area.	Tar Sand	This alternative would allow for maximum exploration and development on 33,072 acres.	This alternative would provide the least restrictive stipulations, while protecting the environment and still allowing for the optimum amount of tar sand development.	Only 29 percent of the STSA would be open for leasing and development
		Other Minerals	No impacts.	No impacts.	No impacts.
		Geology and Topography	Topographic features could be altered. The amount of alteration would depend on the location and amount of development.	Topographic features would not be altered on 16,200 acres.	Topographic features would not be altered on 23,412 acres.
		Soils	Accelerated erosion and off-site soil and water degradation could occur on areas where surface disturbance was extensive and where unstable soil conditions exist.		The soil resource would be given maximum protection from accelerated erosion resulting from development.
		Vegetation	Extensive tar sand development could destroy existing populations and habitat of the threatened Uinta Basin hookless cactus.	*If the Uinta Basin hookless cactus were found, consultation with the FWS would be necessary prior to hydrocarbon development.*	This alternative would preclude adverse impacts to threatened plants and their habitat.
		Water Resources	Degradation of wetlands, floodplains, and springs could occur in Argyle Canyon and along Nine Mile Creek.	Special stipulations would not allow disturbance within 600 feet of wetlands, floodplains, or springs. However, these stipulations might not adequately protect recharge areas.	A no surface occupancy stipulation would provide the maximum amount of protection to wetlands, floodplains, and springs in Argyle Canyon and along Nine Mile Creek. However, these stipulations might not protect recharge areas.
		Wildlife	Loss of mule deer and raptor habitat could occur.	Same as Alternative 1. However, development would be precluded on 15,120 acres on slopes in excess of 40 percent and on 2,000 acres where surface occupancy would not be allowed within 600 feet of water.	A no surface occupancy stipulation for 23,412 acres would significantly reduce impacts to wildlife.
		Livestock and Agriculture	Depending upon the amount of development, six or eight allotments be significantly affected by tar sand development, with reductions of more than 10 percent.	Impacts could occur on 9,660 acres of could category 1 areas and 17,952 acres of category 2 areas.	Surface occupancy would be precluded on 23,412 acres. This would significantly reduce impacts to livestock operations.
		Visual Resource Management	VRM Class II objectives would not be achieved.	VRM Class II objectives could be met in category 2 areas.	VRM Class II objectives could be achieved.
		Cultural Resources	Large-scale development would destroy the archaeological values in Nine Mile Canyon.	Same as Alternative 1, except that potential lessees would be told that Nine Mile Canyon is a sensitive archaeological area and more specific protective stipulations would be imposed prior to leasing.	Special stipulations would protect all lands characterized as potentially valuable for cultural resources.
		Recreation	Loss of recreational activities (hunting, ORV, sightseeing) could occur throughout the STSA.	Impacts to recreation would be less severe than Alternative 1 because of category 2 stipulations.	Same as Alternative 2.
		Land Use Plans	Existing pipeline rights-of-way and public roads could be severely impacted from tar sand development.	This alternative would have similar, but slightly less, impacts than Alternative 1.	Impacts would be substantially less than Alternatives 1 and 2.
		Socioeconomics	Public facilities could not accommodate expected increases in populations in Carbon or Duchesne Counties.	Same as Alternative 1.	Because of the smaller work force required for construction and operation, socioeconomic impacts would not be as severe as Alternatives 1 and 2.

TABLE 9

Summary of Major Environmental Consequences[a]

Resources	Alternative 1: Lease 1B Tracts Under Maximum Development, Subject to BLM Categories 1 and 4 and NPS Stipulations	Alternative 2: Lease 1B Tracts Under Multiple Use Subject to BLM Categories 2, 3, and 4 and NPS Stipulations	Alternative 3: Lease Seven Tracts Under Maximum Development Subject to BLM Category 1	Alternative 4: Lease Seven Tracts Under Multiple Use Subject to BLM Categories 2 and 3 (Preferred Alternative)
Air Quality	Surface-mining activities on the Sunnyside tracts would have a high potential to violate allowable total suspended particulates (TSP) increments for Prevention of Significant Deterioration (PSD) Class 1I and National Ambient Air Quality Standards (NAAQS). Cumulative SO_2 and NO_2 impacts resulting from undispersed development within the STSA could violate PSD Class II SO_2 increments and the annual NAAQS for NO_2. Development of Gordon Corral and Flint Flat tracts could cause or contribute to violations of PSD Class II SO_2 and TSP increments and the Class 1 SO_2 increment at Canyonlands National Park. The secondary 24-hour NAAQS for TSP could also be exceeded. Atmospheric discoloration resulting from NOx emissions could also occur at Canyonlands National Park.	Surface-mining activities on the Sunnyside tracts would have a high potential to violate allowable TSP increments for PSD Class 1I and NAAQS. Cumulative SO_2 and NO_2 impacts resulting from undispersed development within the STSA could violate PSD Class 1I SO_2 increments and the annual NAAQS for NO_2. Development of Gordon Corral and Flint Flat tracts could cause or contribute to violations of PSD Class II SO_2 and TSP increments and the Class I SO_2 increment at Canyonlands National Park. The secondary 24-hour NAAQS for TSP could also be exceeded. Atmospheric discoloration resulting from NOx emissions could also occur at Canyonlands National Park.	Surface-mining activities on the Sunnyside tracts would have a high potential to violate allowable TSP increments for PSD Class 1I and NAAQS. Cumulative SO_2 and NO_2 impacts resulting from undispersed development within the STSA could violate PSD Class 1I SO_2 increments and the annual NAAQS for NO_2.	Surface-mining activities on the Sunnyside tracts would have a high potential to violate allowable TSP increments for PSD Class 1I and NAAQS. Cumulative SO_2 and NO_2 impacts resulting from undispersed development within the STSA could violate PSD Class 1I SO_2 increments and the annual NAAQS for NO_2.
Water Resources	Up to 12,582 acres in BLM category 1, 520 acres in category 2, and 3,169 acres of NPS land could be subjected to surface disturbance. Increased erosion and sediment yield to major drainages would occur from this disturbance. Contamination of surface and groundwater would also occur. It is estimated that water consumption would be 12,594 acre-feet annually under this alternative.	Erosion and sediment yield would increase on all tracts. Impacts would be similar to those in Alternative 1, except less surface disturbance would occur because 720 acres would be in category 1 and 14,B35 acres in category 2. An estimated 12,594 acre-feet of water would be required annually.	Erosion and sediment yield would increase as in Alternative 1. However, only 6,07B acres would be subject to surface disturbance. It is estimated that water consumption would be 5,472 acre-feet annually.	Increased erosion and sediment yield would occur on up to 5,71B acres in category 2. Water consumption is estimated at 5,472 acre-feet annually.
Soils	Up to 12,582 acres in BLM category 1, 520 acres in category 2, and 3,169 acres of NPS land could be subjected to surface disturbance. Soil loss from this disturbance would be increased, causing siltation and revegetation problems. Soil loss from wind erosion could exceed 50 tons/acre/year on some tracts.	Up to 720 acres in BLM category 1 lands and 14,835 acres on category 2 lands could be subject to surface disturbance. Impacts would be less than Alternative 1.	Up to 6,07B acres would be subject to surface disturbance and increased erosion. Therefore, impacts to soils would be less than Alternatives 1 or 2.	Up to 5,718 acres in category 2 would be subject to surface disturbance from tar sand development. Therefore, impacts to soils would be slightly less than Alternative 3.
Minerals and Topography	Using surface-mining methods, 608 million barrels of oil could be recovered. In-situ processes could recover only 203 million barrels. Landforms would be greatly modified, and subsidence could occur on some tracts.	Using surface-mining methods, 562 million barrels of oil could be recovered. Landforms would be greatly modified, and subsidence could occur on some tracts.	Using surface-mining methods, 553 million barrels of oil could be recovered. Landforms would be greatly modified, and subsidence could occur on some tracts.	Using surface-mining methods, 553 million barrels of oil could be recovered. Landforms would be greatly modified, and subsidence could occur on some tracts.

TABLE 9

Resources	Alternative 1: Lease 18 Tracts Under Maximum Development, Subject to BLM Categories 1 and 4 and NPS Stipulations	Alternative 2: Lease 18 Tracts Under Multiple Use Subject to BLM Categories 2, 3, and 4 and NPS Stipulations	Alternative 3: Lease Seven Tracts Under Maximum Development Subject to BLM Category 1	Alternative 4: Lease Seven Tracts Under Multiple Use Subject to BLM Categories 2 and 3 (Preferred Alternative)
Vegetation	Vegetation would be damaged by surface clearing, contour modification, and removal and mixing of topsoil. Surface mining would cause extensive changes in vegetation cover and composition. Some impacts to vegetation would be permanent. There would be no impact to threatened or endangered plant species.	Vegetation loss would be similar to Alternative 1 on 720 acres under category 1 and on 3,169 acres remaining in category 2. More protection would be provided on an additional 11,666 acres in category 2 and an additional 836 acres in category 3.	Vegetation loss would be the same intensity and extent as Alternative 1.	Impacts would be the same as Alternative 2 on affected tracts.
Animal Life	The following acres of wildlife habitat would be destroyed: 6,918 acres of deer/elk summer range; 3,307 acres of deer/elk winter range; 2,800 acres of aspen habitat; 4.5 miles of riparian habitat; 11,717 acres of raptor and small game habitat; two sage grouse strutting grounds, and 4,156 and 780 acres of sage grouse yearlong and nesting habitat, respectively. There would be no impacts to any terrestrial threatened or endangered species. Fish habitat would be impacted by alteration in stream channels, increase in sedimentation, reduction in instream flows, and degradation of water quality. Impacts to the endangered Colorado squawfish, humpback chub, and sensitive razorback sucker could occur from this development. No impacts to wild and free-roaming horses and burros would occur, although some habitat could be destroyed.	The following acres of wildlife habitat would receive some protection from special stipulations: approximately 6,122 and 3,090 acres of deer/elk summer and winter range, respectively; 11,856 acres of small game habitat; two sage grouse strutting grounds and 680 acres of crucial nesting habitat; and 11,856 acres of raptor habitat. It is important to note that even these areas could be developed. The following wildlife habitats could be destroyed: 4,156 and 100 acres of sage grouse yearlong and nesting habitats, respectively, and 4 miles of riparian habitat. There would be no impacts to any terrestrial threatened or endangered species. Fish habitat would be impacted by alteration in stream channels, increase in sedimentation, reduction in instream flows, and degradation of water quality. Impacts to the endangered Colorado squawfish and humpback chub and the sensitive razorback sucker could occur from development. No impacts to wild and free-roaming horses and burros would occur, although some habitat could be destroyed.	The following acres of wildlife habitat could be destroyed: 3,795 and 1,356 acres of deer/elk summer and winter range, respectively; 5,150 acres of small game and yearlong raptor habitat; 1,500 acres of aspen habitat; 2,920 acres of sage grouse yearlong habitat, and 3 miles of riparian habitat. There would be no impacts to terrestrial threatened or endangered species. The potential fishery association with the Left Fork of Dry Creek could be lost. Habitats of the endangered Colorado squawfish and humpback chub and the sensitive razorback sucker could be lost. No impact to wild and free-roaming horses or burros would occur, although some habitat could be destroyed.	The following acres of wildlife habitat would receive some protection from special stipulations: approximately 4,322 and 1,396 acres of deer/elk summer and winter range, respectively and 5,718 acres of small game and raptor habitat. It is important to note that even these acres could be developed. The following wildlife habitats could could be destroyed: 2,920 acres of yearlong sage grouse habitat; 1,500 acres of aspen habitat; and 3 miles of riarian habitat. There would be no impacts to any terrestrial threatened or endangered species. The potential fishery associated with the Left Fork of Dry Creek could be lost. The endangered Colorado squawfish and humpback chub and sensitive razorback sucker habitats could be lost. No impacts to wild and free-roaming horses or burros would occur, although some habitat could be destroyed.
Recreation	All recreational uses and values would be degraded from tar sand development, and recreational visits for all uses would be expected to decline on all developed tracts.	All recreational uses and values would be degraded from development; however, impacts would be less than Alternative 1.	Although all recreational uses and values would be degraded from tar sand development, impacts would be less than Alternatives 1 and 2.	Although all recreational uses and values would be degraded on some areas, impacts would be less than under Alternatives 1, 2, and 3.
Wilderness	Tar sand development in areas contiguous or adjacent to WSAs would impact wilderness values because of impacts to solitude from visual intrusions and sounds.	Same as Alternative 1.	Leasing and development of potential lease tracts would not be expected to impact opportunities for solitude in any potential wilderness area.	Leasing and development of potential lease tracts would not be expected to impact opportunities for solitude in any potential wilderness area.
Visual Resources	In most cases, contrasts created by tar sand development would be high and would probably exceed VRM Class standards.	Impacts would be similar to Alternative 1, except development would be limited to 25 percent of the potential lease tract at any one time.	Degradation of visual resources would be the same as described in Alternative 1. All Class II and most Class III areas would probably experience permanent degradation of scenic values.	Impacts would be the same as described in Alternative 3.

TABLE 9

Resources	Alternative 1: Lease 18 Tracts Under Maximum Development, Subject to BLM Categories 1 and 4 and NPS Stipulations	Alternative 2: Lease 18 Tracts Under Multiple Use Subject to BLM Categories 2, 3, and 4 and NPS Stipulations	Alternative 3: Lease Seven Tracts Under Maximum Development Subject to BLM Category 1	Alternative 4: Lease Seven Tracts Under Multiple Use Subject to BLM Categories 2 and 3 (Preferred Alternative)
Livestock Grazing	Both in-situ and surface mining methods would eliminate or greatly reduce suitability for livestock grazing. Impacts include: loss of forage, loss of water or access to water, loss of trails and disruptions in patterns of use. In addition, no range improvements for livestock would be preserved.	Impacts to livestock grazing would be similar to Alternative 1 because there are no special stipulations or categories 3 or 4 to protect this resource. Although most of the AUMs would be preserved, the suitability of the tracts for livestock grazing would be lost. In addition, no range improvements for livestock would be preserved.	It is expected that both in-situ and surface-mining methods would eliminate or greatly reduce suitability for livestock grazing. Impacts include: loss of forage, loss of water, access to water, loss of trails, and disruptions in patterns of use. In addition, no range improvements for livestock would be preserved.	It is expected that both in-situ and surface-mining methods would eliminate or greatly reduce suitability for livestock grazing. Impacts include: loss of forage, loss of water, access to water, loss of trails, and disruptions in patterns of use. In addition, no range improvements for livestock would be preserved. The forage resource could be preserved, although the tracts' general suitability for grazing would be lost.

[a]Impacts on the 18 potential lease tracts under Alternative 5, No Action, would be as follows: (1) natural resources would remain as described in Chapter 3 (Affected Environment); there would be no significant on-tract impacts; (2) projections of baseline socioeconomic conditions indicate that the populations of Carbon and Emery counties would increase by approximately 68 and 27 percent, respectively, during 1985-2005; during the same period, employment would increase 31 percent in Carbon County and 2 percent in Emery County. Recent instability (layoffs) in the coal industry in Emery County, however, could distort the projections for that county.

TABLE 10

Proposed Leasing Categories for
Maximum Development and Multiple Use

Potential Lease Tract	Total Acres	Maximum Development	Multiple Use (Preferred)
Sunnyside No. 1	3,202		
Category 1		3,202	
Category 2			3,202[a]
Sunnyside No. 2	2,716		
Category 1		2,716	
Category 2			2,356[b]
Category 3			360[c]
Sunnyside No. 3	120		
Category 1		120	
Category 2			120[d]
Sunnyside No. 4	40		
Category 1		40	
Category 2			40[e]
Sunnyside No. 5	640		
Category 1		640	
Category 2			640[f]
Sunnyside No. 6	2,494		
Category 1		2,494	
Category 2			400[g]
			480[h]
			1,374[i]
Category 3			240[g]
Sunnyside No. 7	960		
Category 1		320	
Category 2			960[k]
Category 4		640[j]	
Sunnyside No. 8	1,764		
Category 1		1,764	
Category 2			440[l]
			1,324[m]
Sunnyside No. 9	406		
Category 1		406	
Category 2			330[n]
Category 3			76[o]
Sunnyside No. 10	120		
Category 1		(120)[p]	
Category 2			(120)[q]
Sunnyside No. 11	2,040		
Category 1		(2,040)	
Category 2			(1,960)[r]
Category 3			(80)[s]
Sunnyside No. 12	121		
Category 1		(121)	
Category 2			(121)[t]
Black Dragon	880		
Category 1		880	720
Category 3			160[u]
Flint Flat[v]	2,684		
Category 2		2,684	2,684
Gordon Corral[v]	485		
Category 2		485	485
Pariette No. 1	513		
Category 1		(513)	(513)
Pariette No. 2	3,560		
Category 1		(3,560)	(1,080)
Category 2			(2,480)[w]
Pariette No. 3	277		
Category 1		(277)	(277)
Total	23,022	23,022	23,022
Category 1[x]		12,582	720
Category 2[y]		3,169	14,835[z]
Category 3			836
Category 4		640	

[a] Elk and deer summer range on 3,162 acres and deer winter range on 40 acres.

[b] Elk and deer summer range on 1,000 acres and deer winter range on 1,356 acres.

[c] Public water reserves/riparian areas on 360 acres or 160 and 200 acres.

[d] Elk and deer summer range on 120 acres.

[e] Elk and deer summer range on 40 acres.

[f] Elk and deer summer range on 320 acres and deer winter range on 320 acres.

[g] Sage grouse strutting and nesting areas on 240 acres (category 3) and 400 acres (category 2) or 640 acres.

[h] Elk and deer summer range on 480 acres.

[i] Deer winter range on 1,374 acres.

[j] Sunnyside water supply reserve on 640 acres (category 4).

[k] Elk and deer summer range on 320 acres and Sunnyside Water Supply Reserves on 640 acres.

[l] Elk and deer summer range on 440 acres.

[m] Range Creek watershed on 1,324 acres.

[n] Elk and deer summer range on 240 acres and sage grouse strutting and nesting area on 280 acres.

[o] Sage grouse strutting and nesting area on 76 acres.

[p] Parentheses indicate that tar sand development is not considered on this potential lease tract.

[q] Elk and deer summer range on 120 acres.

[r] Elk and deer summer range on 1,960 acres.

[s] Public water reserves/riparian area on 80 acres.

[t] Range Creek watershed on 81 acres and elk and deer summer range on 40 acres.

[u] Interstate 70 Scenic Corridor stipulation on 320 or 160 acres.

[v] These NPS tracts have already been categorized as equivalent to category 2 and are not being considered for maximum development.

[w] Threatened or endangered plant species (Uinta Basin hookless cactus) stipulation on 2,480 acres.

[x] Includes the NPS tracts.

[y] Category totals do not include the number in parentheses in tbe table.

[z] Includes 3,169 acres of NPS-administered lands.

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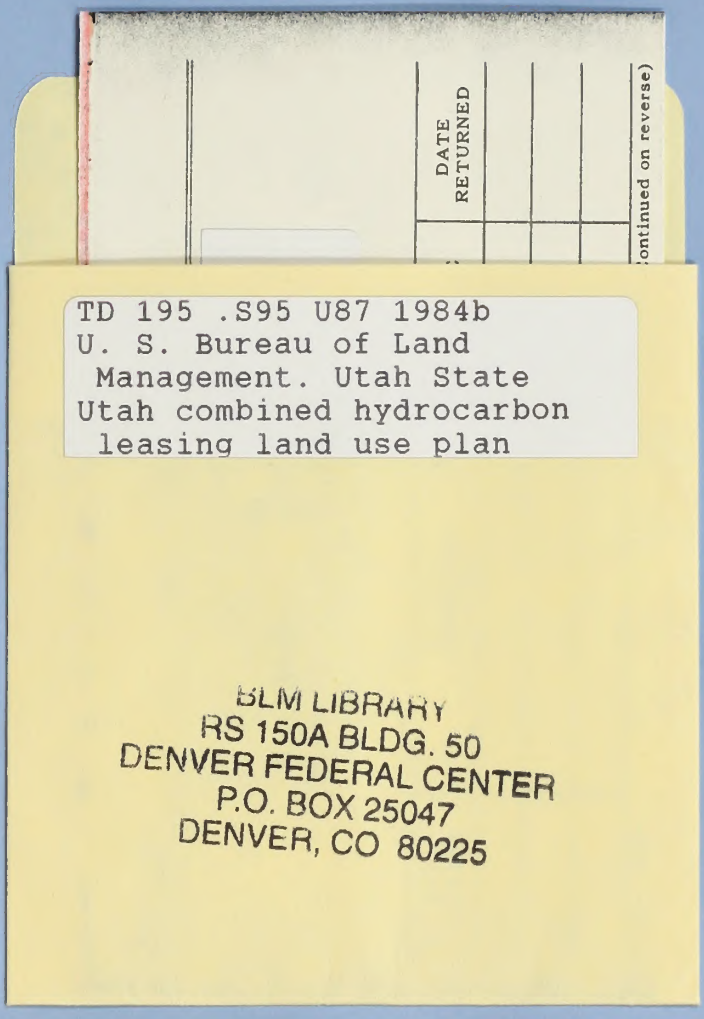

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